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ABSTRACT

The eight papers constituting the Proceedings of the fourth National Paired Reading Conference are published in an annual bulletin of the Paired Reading Project, together with seven papers constituting the Supplementary Proceedings of the Peer Tutoring Conference, and nine feature articles, as follows: (1) "Whole-School Policy on Parental Involvement in Reading" (S. Wolfendale); (2) "Home Reading Styles: Variations in Technique" (J. Elliott); (3) "Reception Class Children and Their Parents Working Together in the Construction of Three Dimensional Forms" (D. Sharples and E. Godman); (4) "The Cambridge Literacy Project: Partners in Literacy" (L. Pearce); (5) "CAPER--Children and Parents Enjoying Reading" (L. Edwards); (6) "Companion Reading: Direct Instruction and Peer Tutoring with Parent Involvement" (M. Grange); (7) "New Ways with Spelling" (L. Oxley and K. Topping); (8) "Multiplying Attainments through Home Support: Parental Involvement in Maths" (T. Arora and J. Bamford); (9) "Peer Teaching in Health Education" (J. Redman); (10) "Peer Tutoring Handwriting and Spelling in a Comprehensive School" (P. Peaker and J. Garnett); (11) "Cued Spelling and Paired Reading in Adult Basic Education in Ryedale" (J. Scoble); (12) "Cross-Age Tutoring in Science" (K. Miller); (13) "Same-Age Peer Tutoring in Secondary School Science" (M. Bland and G. Harris); (14) "Knowing You--Knowing Me: A Peer Counselling Project" (J. Bond); (15) "Peer Tutoring with 'A' Level Chemistry Students" (P. Tymms); (16) "Changes in Reading Style Following Peer Tutored Paired Reading and 'Listening' to Reading" (T. Joscelyne); (17) "Participant Evaluation of Parent-Tutored and Peer Tutored Projects in Reading" (K. Topping and M. Whiteley); (18) "C.R.I.S.P.--Cleveland Reading in Secondary Schools Project" (M. Greening and J. Stephenson); (19) "Kirklees Paired Reading Project--Summary of Research Results" (K. Topping); (20) "The Effect of Understanding Mnemonic Strategies on Peer Tutoring" (A. Barron); (21) "Purposeful Interaction: Skills and Stages" (K. Topping); (22) "Reciprocal Peer Tutored Cued Spelling with Ten Year Olds" (M. Brierley and others); (23) "Cued Spelling in Adult Literacy in Kirklees" (R. Harrison); and (24) "Cross-Curricular Same-Age Peer Tutoring at Deighton High School" (A. Sunderland). Also included is a section of news on the Kirklees Paired Learning Project, parental involvement in mathematics, paired reading in Gujerati and Urdu, paired writing, the peer tutoring consortium, and peer tutoring in higher education. (SR)

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Paired Learning

TUTORING BY NON-TEACHERS

PEER TUTORING... PARENTS AS EDUCATORS... VOLUNTEER PROGRAMMES

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1989

INCORPORATING THE PAIRED READING BULLETIN

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Each issue includes Proceedings from the Paired Reading Conference held in the November of the previous year, except No 4 (no Conference held in 1987).

All items in print available from the Paired Learning Project at the above address. Postage and packing extra. Overseas orders despatched airmail unless specified otherwise.

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Kirklees Paired Learning Project: Parental Involvement in Mathematics: Paired Reading in Gujerati and Urdu: Paired Writing: The Peer Tutoring Consortium: Peer Tutoring in Higher Education.

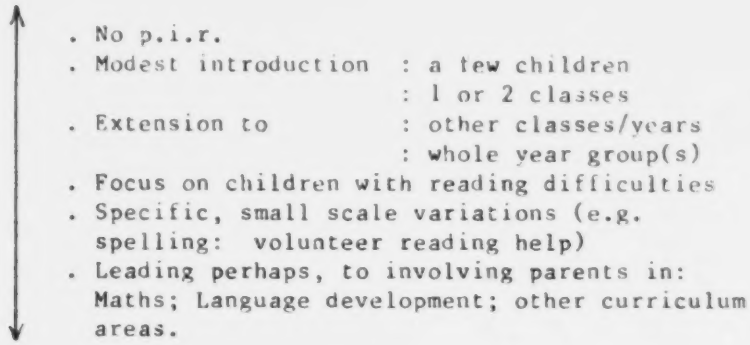
Note: with respect to both conferences, many presentations have been, or are about to be, published elsewhere, and some workshop sessions did not lend themselves to written transmission.

A WHOLE-SCHOOL POLICY ON PARENTAL INVOLVEMENT IN READING

Sheila Wolfendale

This article summarises a talk given at the IVth National Paired Reading Conference in November 1988. The main purpose was to link recent developments in involving parents in reading with a broader perspective of schools' policies and practices in the teaching and learning of reading and related literacy skills.

Firstly, participants were invited to plot where they and teaching colleagues were in regard to involving parents in reading, along a dimension which comprised:


. No p.i.r.
. Modest introduction : a few children
: 1 or 2 classes
. Extension to : other classes/years
: whole year group(s)
. Focus on children with reading difficulties
. Specific, small scale variations (e.g. spelling: volunteer reading help)
. Leading perhaps, to involving parents in: Maths; Language development; other curriculum areas.

An appraisal was then made of the gains that had emanated from involving parents in their children's reading. Positive outcomes could be generalised to broader involvement by parents within the curriculum utilising similar methodologies.

It was suggested that a whole-school approach is timely, in view of:

(a) the proven effectiveness of involving parents directly in their children's learning.

(b) raised expectations by many parents (some of whom are parent governors) that they can and should participate in these and other ways in school life and educational processes.

(c) the advent of the National Curriculum, of which English will be a core subject. The programmes of study and attainment targets are very detailed and ought to facilitate the drawing up and implementation of parent involvement programmes.

(d) the requirements within the Education Reform Act 1988 for schools to inform parents of children's progress and to publish assessment results. Other provisions within the Act could well foster a keen desire by schools to promote buoyant parental involvement, develop parental 'brand loyalty' and commitment towards 'their' school's aims, objectives and demonstrable success.

Planning and Operating a Whole-school Parental Involvement Policy

It was suggested that schools would need to clarify what the precise aims and objectives were in moving towards a whole-school policy, and particularly to

inter-link a shorter-term objective of **promoting functional literacy** with a longer-term goal of **ensuring life-long literacy.**

Schools may always have operated on the assumption that such preparation for eventual adult competence was implicit in their curriculum policies. What was argued was that to include parents in the process of literacy acquisition opens up new areas and possibilities and broadens the scope of the curriculum, both in reading/English and in cross - curricular approaches.

Within a definition of literacy, a number of activities characteristic of 'literate behaviour' were listed, in order to demonstrate how teachers and parents could agree a common agenda for co-operatively working towards functional as well as life-long literacy. It was pointed out that teachers and parents are working towards the achievement of a number of literacy goals in parallel, but all too often without reference to each other. In school and home settings, there is a common desire for children to develop competence in:

- . reading for pleasure and for information.
- . using the printed word to understand and make sense of the world.
- . to be familiar in multi-media usage.
- . to question, weigh arguments, appraise evidence.
- . to respond to written requests, complete forms, comprehend signs and instructions in public places.

The suggestion was that it would be far more efficient and productive to work <u>together</u> to achieve these aims.

Examples of current work in several schools (one nursery/infant; one first school; one secondary school) were given to illustrate the feasibility of involving parents in approaches that include reading but also embrace the broader curriculum. In each case the teachers concerned articulated a rationale for their initiative and set it firmly within the context of a school policy.

Participants at the talk then engaged upon an exercise which comprised:

- i summarising p.i.r. in their school to date.
- ii listing future plans for involving parents in reading and/or other curriculum areas.
- iii summarising features of any existing whole-school policy.
- iv devising a whole-school policy, writing down the main components.
- v showing and discussing the list with a neighbour.

A number of completed lists were collected. The summary reiterated the rationale as well as the need to move towards a broader conception of 'parents as educators'.

References:

Topping, K. and Wolfendale, S. (eds.)(1985) Parental Involvement in Children's Reading, London Croom Helm; New York Nichols.

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Wolfendale, S. (ed.)(1989) Parental Involvement: Developing Networks between School, Home and Community, London Cassell.

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New Book Information

PARENTAL INVOLVEMENT IN CHILDREN'S READING

Edited by Keith Topping, Educational Psychologist, Kirklees Metropolitan Council, Huddersfield, and Sheila Wolfendale, Principal Lecturer in Educational Psychology, North East London Polytechnic

Parental involvement in children's education is a subject of growing interest and recent legislation in both the UK and USA has given formal recognition of parents rights. Learning to read is an obvious area where parents can do a great deal to help, and some schools have had programmes for parental involvement in reading for some time. However, recent research has shown the considerable benefit in having carefully structured systems for parental involvement.

This book presents a review of past and current good practice in this field. Details of a wide range of schemes developed in local areas are given in a series of short contributed papers, which are grouped into sub-sections of Part II according to the type of project. Part Three is essentially a manual of materials and methods. The emphasis throughout the book is on service delivery to all children, although there is of course considerable discussion of remedial reading and children with special needs. The book should appeal to a wide audience in education, educational administration and educational psychology.

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HOME READING STYLES: VARIATIONS IN TECHNIQUE AND PROJECT ORGANISATION

Judy Elliott

In an investigation of how parents help their children with educational activities at home, a major focus was on styles of reading at home. Table 1 summarises the fieldwork undertaken.

TABLE 1 FIELDWORK IN INVESTIGATIONS OF HOME READING STYLES

	No. of families visited	
	INTERVIEWS	RECORDINGS
Paired Reading Pilot Study	9	6
Main Study		
A. SOCIAL GROUPS:		
(1) Working-class	40	26
(2) Middle-class	30	20
(3) Ethnic minorities	65	28
B. PAIRED READING:	30	18
C. FOCUS ON LITERACY:	20	10
TOTAL NO. OF VISITS: 302	194	108

There has been:

AN INTERVIEW PHASE: where parents visited were in their own homes and questioned about home activities (e.g. reading, writing, arithmetic, drawing, games).

A RECORDING PHASE: involving return visits to some of the same homes and audio tape recording of the children's reading.

Most of the children involved in the project were top or middle infants. Their names and addresses were provided by the schools. In this paper, discussion will concentrate mainly on the Paired Reading and Focus on Literacy sections.

PAIRED READING: Families who had participated in a Paired Reading project.

FOCUS ON LITERACY: A further disadvantaged area was visited and questions asked more specifically about reading stories and listening to reading.

PAIRED READING PROJECT: INFORMATION FROM FAMILIES

The families visited had been in a Paired Reading project about a year before. The parents had attended a launch meeting at the beginning of the project and had agreed to help with their children's reading for the next six weeks. The Paired Reading project had been very successful. Of the 26 children for whom Daniels and Diack pre and post tests were available, 18 had made reading gains of over 6 months. The highest gain for the project was 2 years in reading scores.

Interview Schedules covered 3 main areas:

- ACTIVITIES: The general home educational activities schedule was used with all the various groups.

- FREQUENCY: A schedule concerned with the frequency of help with reading given BEFORE, DURING and AFTER the Paired Reading project.

- MECHANISM: The interview schedule for the first 2 questionnaires took so long that the Mechanism questionnaire was used in the recording phase. It was designed to investigate parental views on the Paired Reading technique and on the advantages and disadvantages of various aspects of the project.

The interview schedules were initially tested out in a small pilot study where 9 families were visited who had participated in a Paired Reading project at a different school.

INFORMATION FROM THE FREQUENCY QUESTIONNAIRE

There was generally a very good response to the project. No families dropped out of doing the reading during the six week period. Of the 30 people interviewed, 25 parents said that during the reading project they were helping with their child's reading at least once per day. Of the remaining 5 families, 4 said 'a couple of times a week' and one said 'once a week'.

Fifteen families (half of those visited) said they were doing some "listening to reading" before the project. Twenty-five families said they were helping with reading for the period immediately following the project. There were 23 families where reading had continued fairly regularly ever since.

Thus, because of the project:-

(a) 15 more children were given some regular experience of home reading.
(b) Of these, 10 children continued to read at home beyond the six week period of the project. There were 8 children who were still regularly reading at home over a year after the project was completed.

When interviewing families who had been involved in Paired Reading, it became clear that people were not always sure exactly what Paired Reading meant. There had been a much greater variety of ways of helping with reading than had been anticipated. Not only did different families adopt different ways of doing the reading, but there was also variability for each particular family over time. For this reason, it was necessary to look at what had happened in 5 stages:

(1) BEFORE THE PROJECT
(2) PROJECT (INITIAL PHASE)
(3) PROJECT (CONTINUED)
(4) POST PROJECT (INITIAL)
(5) POST PROJECT (CONTINUED)

The reading styles fell into 10 different categories (see table 2):-

TABLE 2 READING STYLES ADOPTED DURING AND FOLLOWING PROJECT

	DURING INITIAL PHASE	DURING CONTINUED PHASE	POST-PROJECT INITIAL PHASE	POST-PROJECT CONTINUED PHASE
INFORMAL LISTENING	3	9	11	14
FULL PAIRED READING	10	6	1	0
SIMULTANEOUS READING (child had difficulty)	3	3	1	0
INDEPENDENT READING	2	1	0	2
SEPARATE PR/INFORMAL	3	3	4	3
INTERCHANGED PR/INFORMAL	3	3	3	2
SOMETIMES SEPARATE PR/INF SOMETIMES INTERCHANGED	2	1	1	1
TOTALS	(23)	(17)	(10)	(8)
INFLUENCES FROM PR (joining in with some words)	2	2	2	1
SIMULTANEOUS RELAXED (relaxed form of reading for child who can really read quite well)	1	1	0	0
SIMULTANEOUS RELAXED PLUS INFORMAL (separate and interchanged)	1	1	2	0
NO READING SESSIONS (child reads silently since reading is good)	0	0	1	1
NO READING SESSIONS (general)	0	0	4	6

(N = 30)

Even these do not convey the full variety of reading behaviour. For instance, one father said that he always began a reading session by reading to his son. His son then read along simultaneously with his father, although he was fairly good at reading. Finally there was a phase of informal reading where father helped out with a variety of corrections. In this way, the son, who was somewhat under-confident, was eased gently into doing the reading.

Of the 30 families involved in the project, 23 gave Paired Reading a try at the beginning. After the first few days, 5 of these families changed to an "informal" method of reading, leaving 17 doing Pread Reading. Therefore just over half of the families did Paired Reading for more than a trial period. Ten families continued with Paired Reading immediately following the project. There were 8 people doing Paired Reading together with an informal method a year later, though for 2 of these families, the children were reading so well that the parents did not get much chance to join in.

Of the 23 families who did Paired Reading at some stage, 8 continued with Paired Reading successfully throughout the project, while 3 continued successfully with simultaneous reading and one with Paired Reading in the reading independently mode. Four families continued with Paired Reading, but had problems with it. In 4 familes Paired Reading was rejected because the child disliked it. In 2 families Paired Reading was rejected as the parents disliked it. In one family Paired Reading was discontinued on the advice of the school.

Of the 3 families which went straight on to informal reading, in one family the parents made a decision not to use Paired Reading. The other 2 families did not use Paired Reading because they were not aware that the technique they used was of any special importance.

The remaining 4 families continued with a reading style showing some influence from Paired Reading.

This suggests that it is best to be warv of assuming that because a project is labelled with a particular technique, families will be following that technique throughout the course of the project. Where there is already an established pattern of helping with reading, Paired Reading is often integrated into the existing reading style. Parents tend to take what they want from the advice they are given and are quite good at gearing what they do to the needs of their particular child.

INFORMATION FROM THE MECHANISM QUESTIONNAIRE

The mechanism schedule was used with 9 families in the pilot study and 18 families in the main Paired Reading study. Some of the items covered with respect to each reading session were:-

(1) Does practice help?
(2) Was reading made less stressful?
(3) Does the child learn if little fuss is made about the errors?
(4) Is reading together a good thing?
(5) Is using only one method of correction a good idea?
(6) Is it always best to give a lot of praise?

(1) DOES PRACTICE HELP?

Practice rated highly: Most people (14 out of the 18 in the main study) seemed to agree that the extra practice gained during the project was a very important factor. This was clearly illustrated by people who had kept to the same style of listening to reading they had used before, yet noticed a great improvement in their child's reading, since they were listening to the reading more often than normal.

Teachers' time limited: There are studies which show that the amount of time teachers are able to spend actually listening to each individual child's reading in class is fairly limited, so this kind of back-up from parents is quite a useful thing to have.

Seasonal timing of project: A few people did mention that their children became tired or bored with doing so much home reading and said that it would have been better if the project hadn't been held during the summer when children were always wanting to play outside.

(2) WAS READING MADE LESS STRESSFUL?

A number of parents (10 out of the 18 in the main study) agreed that Paired Reading made reading less stressful for their children, and a further 4 parents said that their children had never found reading stressful. The stress-reduction effect seemed to be particularly true in the case of children who had difficulty in reading.

This point was highlighted in the case of one child involved in the pilot study. His mother described how, before the project, when they did any reading, her son would become so frustrated that he would throw himself to the floor. He was always either very distressed or throwing a tantrum.

During the Paired Reading project, they read together all of the time. The child was much happier with this and soon began to enjoy stories from books. At the time when his mother was interviewed, he was just beginning to gain enough confidence to read a few words on his own.

Paired Reading seems to reduce stress in two major ways:
Firstly, the parent joins back in whenever there is any difficulty, and so provides support. Secondly, there is no fuss made over each error, so the child is able to read on and enjoy the story.

(3) DOES THE CHILD LEARN IF LITTLE FUSS IS MADE OVER ERRORS?

The majority of parents said that their children **did** eventually remember words when they were corrected by parental modelling and child repetition. Children seemed to be aided in this by a greater appreciation of the context in the story they were reading. Some of the parents who did complain about not paying enough attention to errors tended to have a very high demand for accuracy. They were more concerned that their children should read every word correctly than that they should understand the story. However there were some parents who said that with Paired Reading, their children just tended to parrot the words without paying any attention to meaning and were therefore less likely to learn from the mistakes.

(4) IS READING TOGETHER A GOOD THING?

This seems to depend very much on the child's particular needs at the time and the book which is being read. Reading together tends to help out in 3 main ways:-

- **Providing support:** A child who is having difficulty with reading seems to benefit from having the support of someone joining in with reading.

- **Comprehension:** Joining in can also be an aid to comprehension. The flow of the story is maintained, and the child is able to follow what is happening.

- **Expression:** A number of parents mentioned that their children were imitating them in using changes of intonation and expression in their reading.

Reading together is sometimes less successful where the child is fairly proficient in reading, or is very independent. In such cases, the child may tend to become bored, and may become frustrated if the parent persists in joining in whenever there is a small error.

One mother mentioned that her son was not very keen on reading together because he liked having the attention of an audience - someone sitting and listening to him - a way of reading which he found very supportive. Since reading together is itself supposed to be supportive, this emphasises that the same thing may appear very different when viewed through the eyes of different children.

Many children believe that when they read to their parents, they are telling them a story. Reading together might not fit in quite so well where this is the case.

(5) IS USING ONLY ONE METHOD OF CORRECTION A GOOD IDEA?

From observation of many children reading to their parents, it appears that parents respond very well to the individual needs of their children. Many other approaches including phonics can be applied very skilfully by some parents.

However, a main advantage of the Paired Reading style of correction is that it enables a very rapid interchange from error to parental support. The child is not left struggling, so the flow of the reading is maintained.

It is interesting to note that exposure to Paired Reading often seems to leave a legacy with families, even if they do not continue with the full form. There often develops a characteristic pattern of parent telling the child the error and the child repeating it, while carrying on with the story. This retains the continuity of Paired Reading without the need for the parent to join in with further reading together (see 'Beyond Paired Reading' in Topping, 1986).

(6) IS IT ALWAYS BEST TO GIVE A LOT OF PRAISE?

It may be a good idea to give a lot of praise if the person helping the reader is a stranger, or not very close to the child. This can give the child an indication that the person wants to be supportive and give the child encouragement. However, many children do not welcome the same treatment from their parents. Genuine praise given selectively when it is perceived by the child to be "deserved" is often much more highly valued.

Many parents say it seems quite false to keep on giving praise, even at times when they know their child is not reading very well. In a close family situation where a lot is probably conveyed by subtle aspects of nonverbal communication, a lot of praise can constitute 'overkill'.

Also included in the 'Mechanism' Schedule were four aspects of the organisation of the project:

(1) The child choosing the books
(2) Story books or graded readers?
(3) Record cards
(4) Launch meetings

(1) THE CHILD CHOOSING THE BOOKS

There was an almost unanimous feeling by parents in the main study that it was not a good idea for the child to choose the books totally unaided. There were many reports of books being brought home which were either too difficult, because the child had been attracted by pictures, or far too easy, because the child lacked confidence in reading. At the same time, nearly all the parents agreed that it was good for their children to choose their own books, as they were then interested in doing the reading, and enjoyed the story.

One quite popular solution was that books of the same level of difficulty be placed on the same shelf. Children would be allowed to choose from any shelf, but would then have more idea of what they were letting themselves in for! Some parents said it would be better for the books to be colour coded, but others felt this would make them too much like graded school readers. Parental monitoring of the books the children chose was another idea, but some parents felt that this might lead to arguments.

Some parents pointed out that the range of books which their children previously read was often restricted by common assumptions about the 'kinds' of books which young children like to read. Most books for young children are fictional, but a number of parents said that their children liked factual books. Some children had slightly offbeat tastes in the books they liked reading. For instance, most children's books are illustrated in bright colours, but one little girl said that her favourite books had black and white pictures.

Parents in the pilot study often responded on this issue with an indication of child skill development in successful choosing. They said that their children had experienced difficulty in choosing books at first, but as time went on had gradually learned to be more effective in their choice. Some parents said that it did not really matter if their children had books which were too easy or too difficult on occasions. Sometimes children liked to relax with an easier book or else tackle a more challenging one, depending upon their mood.

(2) STORY BOOKS OR GRADED READERS?

There is a lot of controversy in education as to whether it is best for children to learn from "real" books or from graded readers. For the audio recordings of children reading, a compromise mixture of story books and graded readers was used. An important feature of Paired Reading is that a good selection of well illustrated books is made available to the children. This stimulates interest. From the audio recordings there is a marked difference between the dull monotone of a child reading from one of the less imaginative graded readers and the enthusiasm and expression used by children reading from a good story book.

A main insight into the value of Paired Reading came not from visiting families who had participated in a Paired Reading Project, but from observing and talking to children with reading difficulties who had no knowledge of PR. Often, these children were in deprived areas and had little exposure to books or written material in the home environment. They generally had a fairly limited knowledge of the purposes of printed material (instructions sheets, newspapers etc) and unlike the middle-class children in the study seemed unaware that reading could be done for enjoyment. Virtually their only contact with reading was a very low grade reader with a limited number of pages which they had memorised by heart.

Parents of children with reading difficulties reported problems with finding elementary story books which their children would be able to tackle. Bookshops were largely geared to middle-class children who progressed more easily with their reading and the only really elementary books available were obviously intended for toddlers. Paired Reading provides a bridge to a wider experience of reading, enabling children who are having difficulties to try more interesting and challenging books. This helps to break down a syndrome where the child who is having difficulty with reading is further discouraged from learning to read by a lack of varied and stimulating reading material.

A number of parents said it would be a great help to them to have more access to school reading books. They complained that it was almost impossible to find similar books in the shops, with very simple regular text that even the least able readers could follow if given a bit of help. Parents in this situation seemed to go for the simplest of the Ladybird books and the Puddle Lane books. However the vast majority of the books in the shops contained words which were far too difficult for the children and without parents joining in with the reading they tended to be very discouraging to attempt to read.

(3) RECORD CARDS

Views from participants in the main study were fairly mixed on the subject of record cards, but were more positive from people in the pilot study, where 7 out of 9 families felt they were a good idea. This variation in response might stem from a slight difference in approach, since in the main study a number of people said they felt that the teachers soon lost interest in the cards.

Many parents thought that the cards were very important in motivating both themselves and their children. One mother commented that they provided both 'feedback and reinforcement'. At the pilot study school, the children were awarded stars when their parents reported that they had done particularly well and this was normally greeted with great enthusiasm. However, one mother did mention that the stars caused her son some anxiety because he badly wanted one, but his reading was never "good enough". If stars are used, they should be given for effort as much as for progress. Some parents did mention that they often found it hard to think of things to write on the cards every day and suggested that it might be better to write just when they had something to say.

One of the parents said that she thought her daughter would be much more likely to want to read if it were made more of a 'homework thing'. That may be one of the things which the record cards achieve .... the children know that the reading is not just something which their parents have dreamt up to be irritating, but something which has the backing and approval of the school. One of the points of importance to teachers here is that the record cards are effective only if they are treated seriously and the parents are given some genuine feedback on how their children are progressing. In Paired Reading there is a lot of emphasis on giving praise, both verbally and on the cards, but once again, the praise is more likely to be valued if it is given appropriately.

(4) THE LAUNCH MEETINGS

Many parents appreciated having a meeting at the school and this was particularly true in the case of the pilot study school where there were launch and follow-up meetings. Parents said it was a great help to be able to meet up with other teachers and parents. One mother commented that the whole 'ritual' of Paired Reading, with its various letters, meetings, cards and follow-up meetings seemed to generate a form of 'self-induced pressure' and focused attention upon the reading. From comments which people have made, an analogy may be drawn with a slimming club. It may be very difficult to do something on your own but it becomes much easier when you are doing it with other people. The involvement of other people has several effects:

- it means there is someone with whom you can identify, so you don't think your particular problems are unique.
- it provides support and encouragement.
- it introduces an element of competition, since no-one wants to fall behind.
- it provides feedback.
- it focuses attention upon the task in hand.

FORMS IN WHICH READING CAN OCCUR IN THE HOME

It might be thought that when reading occurs spontaneously in the home, it always takes the form of "listening". However, there turned out to be a number of variations:

(1) As already mentioned, the child may pick words out of stories.

(2) The parent may begin the story or finish it off.

(3) The parent and child may read alternate pages.

(4) Material can be used which is written by the parent or child (for instance, the parent may create a story where the child is the main character).

(5) With some children, continuity is maintained with other aspects of education. For instance, the child will copy out bits of favourite stories and draw pictures to go with them.

(6) A child in the early stages of reading may look through a book and make up a story to go with the pictures.

(7) Older brothers and sisters often help out with reading stories and listening to reading. Also, children tend to incorporate things to do with reading when they play "school".

CONCLUSION

In this small study one is only seeing the 'tip of the iceberg'. There is a wealth of information still to be obtained. It seems important that in designing projects people should be aware that they are not 'writing on a blank slate'. Parents tend to have their own established patterns of interacting with their children and are often very sensitive in responding to each child's individual needs. Children are not uniform in their personality and will not react in a uniform manner to input from a particular project. It seems that a compromise must be arrived at where parents are given useful advice and information, but left with enough freedom to experiment and find the best approach for helping each individual child.

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RECEPTION CLASS CHILDREN AND THEIR PARENTS WORKING TOGETHER IN THE CONSTRUCTION OF THREE DIMENSIONAL FORMS

David Sharples and Elizabeth Godman

In recent years there have been numerous projects on parental involvement at home and at school in various aspects of the curriculum. The focus has been predominantly on reading and to some extent on mathematics. Where parents are involved in art work in school, they may frequently be asked to help organise materials or to clean up. Sometimes they may work with a small group of children supervising the production of a rubber-stamped pre-determined end product following a recipe from an art or craft publication. Our project attempted to break this mould. We felt that three-dimensional art was a particularly neglected area of the primary school curriculum.

We were also aware that research on pre-school language development (Wells, 1984; Tizard & Hughes, 1984) has demonstrated the high quality of language interaction in the home between children and their parents. One explanation for this is that the interactions take place in the context of purposeful activity. We felt that some of this might usefully be brought into school.

Scholes First School is situated in a village in West Yorkshire. It is for children aged 5-9 years and has a staggered intake of reception age children. Opportunities to be involved in the project were offered by letter to all the parents of the children entering the reception classes in January 1987. Eleven mothers volunteered to take part in ten Thursday afternoon sessions to be run that term.

The aims of the project were various. It was viewed as part of the art curriculum development in the school. Other facets of this have included a sculptor in residence working with older children in the school, visits from students at Bretton Hall College to work with all the children, and a return visit for the whole school to the college and Yorkshire Sculpture Park. Another important aim was to ease the transition from home to school for young children and their parents.

We also wanted to teach parents and children particular skills. Most of the parents had little recent experience of three-dimensional art and some had had none at all. For the children, we hoped the activities would be a natural extension of their constructional play and they would also be encountering a range of materials which they might meet again later in school life. The one-to-one situation in which parents and children were to work would allow children to imitate adult activities, something which young children appear to enjoy. We hoped too to make communication between parents and the school easier and to help parents learn more of the aims and expectations of the school.

Workshop sessions were always well attended and ten mothers remained involved in the project to the end. Sometimes they were accompanied by younger pre-school children and a husband. If mothers were unable to attend, other members of the extended family sometimes came instead and on other occasions another parent in the group looked after the child. Provided the child was attending school, they came along to sessions even if their parent could not come. The children in the group consisted of 4 girls and 6 boys.

We met in a classroom set aside for work with parents. Parents could have a brief chat before starting work. The Head Teacher demonstrated the skills to the parents and discussed key language related to the work with them. When parents felt confident and settled, the children were collected from their classrooms and the activities began. Sometimes parents and children made separate but similar items and sometimes they worked together on a joint piece. At times a group of parents and their children worked together.

Various media and skills were introduced as in Table 1. We attempted to introduce a variety to allow a breadth of experience and to try to ensure some success with something for everyone. It was originally intended to cover three main areas of sculpture: modelling, construction and carving. In practice, emphasis was on modelling and construction. This was primarily due to the availability of suitable materials, although block salt, soap, wax or commercially produced easily carvable materials lend themselves to work with younger children. For modelling we chose mainly clay and plasticine. In addition there was moulding with plaster of Paris and the use of plaster-of-Paris-impregnated bandage (modroc - bandage used to set limbs) was introduced. A variety of media were used in construction work. Rolled-up paper provides quite a strong armature or skeleton for papier mache work, and straws and card, wood and wire were also used as a foundation.

TABLE 1 CONTENT OF THREE-DIMENSIONAL ART WORKSHOP SESSIONS

MEDIA	SKILLS	OUTCOME
Clay	thumb and slab pots applied decoration	container to hold water - any shape, any size
Clay	pottery slabs	masks
Plaster, clay Glazes	taking casts glazing pottery	casts from clay masks glazed pots
Newspaper, card art straws, tissue clay, plaster cast	rolling, folding glueing, pressing, moulding	tubular models clad with tissue replicas of masks
Card, paper Plasticine	completing card work modelling	paper sculpture models figures
Plasticine Tissue, paste	modelling papier mache	animal or puppet heads
Paper, card, tissue plasticine, tissue	modelling papier mache	
Fabrics, decorations	sewing glove puppet	glove puppet
Wire, wood	forming wire	wire/wood figures

During the first session the aim was to make a pottery container to hold Water. The Head showed the parents how to prepare clay, make slip and the various stages in making a pot from unfired green ware, to biscuit fired ware and final glazed ware. He demonstrated how to roll out and join clay and introduced parents to a variety of tools e.g. plastic modelling tools, boards, rollers, knives and cutting wire and sieves. They were warned about clay drying out from overworking and were encouraged to think an idea through before working, so that clay was not constantly rolled out and rolled up again. Once the children joined the group, they sat with their parents and worked with them. The Head deliberately did not stop their activity to make teaching points, but simply answered parents' questions about where equipment might be found or a particular technique.

In the second week the parents were introduced to making a mask from a clay slab, where features are created by pinching and pulling and by addition, so that the end result is a relief face. The final intention was to use this as a basis for making a plaster cast, which could then be used to make replica clay masks. In this way we hoped to give parents and children some idea of the techniques used in commercial pottery manufacture. The Head warned parents about the need to give faces features, such as noses, which it would be possible to later remove from a mould. Hooked noses or finely detailed features would be likely to snap off. When the children and their parents had made the masks they were stored until the following week in plastic bags.

During the following week plaster casts were taken from these masks. A circular cardboard frame was made which was pressed down into a ring of soft clay. The mask was placed flat inside the circle with about a 1 cm gap all round. Mixed plaster of Paris was then poured in to take the cast. Parents were warned to make only limited amounts of plaster but still tended to mix too much, so this was shared with others. This session turned out to be messy and fun and the children were fascinated by the rapid setting properties of the plaster. Once the casts were hard the clay was peeled out. Some noses and detailed hair stuck in the plaster mould and so files were used to adapt them for future use, and an element of carving was introduced.

Whilst this work was under way, glazing pots from week 1 was also begun. Ready mixed hazard-free school glazes were used. We showed the parents and children a sample of the fired product for each glaze so that they could make their choice. Glazes were applied by both dipping and brush. The Head showed the group how to ensure glazes were applied evenly and how to avoid finger marks. He also emphasised that it was important to remove glaze from hands and that the children should not eat it.

In week 4 parents and children began paper sculpture. It may have come as a surprise to some that newspaper rolled into tight tubes can be very strong. The children found this particular task rather difficult, and art straws do a similar although smaller scale job. The Head also showed the group how to make right-angle girders from scored, folded card lengths. Both parents and children did this, carrying out the scoring with scissor ends along a ruler edge. Various forms began to emerge and some participants started to clad theirs with tissue. During this session parents and children also made masks from their plaster moulds. Masks made from liquid slip poured into the moulds tended to crack. Pressed rolled clay masks were more successful. By this time another problem had arisen. Storage of various items requiring different storage conditions became problematic. Messy clay and plaster do not mix well with clean paper and card.

The fifth session saw the continuation of the tissue cladding work, although sadly some of these paper sculpture items were abandoned as they collapsed. Some children made models from plasticine and some worked with their parents. For some children the tissue work was tedious and they preferred the more malleable materials such as clay and plasticine. During week six plasticine and tissue work were combined to make puppet heads. Children and parents modelled a solid human or animal head from plasticine. They then covered this with five layers of tissue and PVA glue mache. Each tissue layer was a different colour to ensure complete coverage each time. The parents were rather surprised that five layers would be strong enough. One parent had the idea of sticking the head onto a rod to make it easier to work with. During this project some parents and the children worked on different examples of the same theme, for example two elephant heads, one made by a parent, the other by her son.

The next week the paper sculptures were varnished, the children using sprays. Work also progressed on the puppet heads. The parents split around them using a sharp Stanley knife and the children had the job of scooping out the plasticine. They left plasticine in the delicate parts such as ears or elephants' trunks. The heads were then joined again using another tissue papier mache layer and in some cases they were painted. The heads were decorated with sequins and other materials and wool hair was added. During the eighth session puppet bodies were sewn. Parents used their hands as templates and showed their children how to sew. The gloves were also decorated with sequins.

The ninth session was recorded on video. Surprisingly, neither parents nor children behaved as if they were very conscious of its presence. By this stage the group were well used to working together and they carried on as usual. Some completed their puppets whilst others began wire sculpture. Parents and children made figures from bent wire and these were then stapled onto a wooden base. The Head showed the children how to saw these and to use a saw safely under supervision. By this time coffee breaks had become an important feature of the sessions. Whilst the children went out to play, the parents stayed in and socialised. They also began to bring cakes and so naturally the children became reluctant to leave the sessions to play outside. At the end of the video session most of the group stayed behind for the instant replay.

In the final week the wire figures were covered with plaster bandages. Some participants painted their models and some left them white. Some took them home to complete during the Easter break.

Overall we felt that the project was a success. Our judgements were supported by the enthusiasm of parents and children for the sessions, from the closeness that could be observed between parents and children during sessions and from the end results. Children passing along the school corridor proudly pointed out their puppets to visitors, announcing "I made that". Parents who had been involved with these initial workshops also came back into school in the summer term to share their skills with other children. More detailed questioning of parents revealed other interesting findings.

The most popular and enjoyable material for both parents and children was clay. Not surprisingly, children also enjoyed other easy to manipulate materials, such as plasticine, straws and papier mache, whilst parents felt satisfaction too with balsa and wire. In every case there was a strong relationship between enjoyment and feelings of success with a particular material.

A number of mothers felt that wire was unsuitable for this age group, as it was hard for small fingers to bend. A number of parents commented about what they had learned. One mother said "I had no knowledge of modelling at all before this project and found it all very useful, particularly thinking in three-dimensions instead of two. Another felt she had learned to apply herself "by thinking out the problem before actually working in the medium".

Questioned as to what the children learnt, one child's simple reply was "to make things". Parents noticed that their children had acquired "new ways of making even more models" and that "modelling was something he could do as well as, or better than, an adult; that some materials are easy to use, others difficult; that some media take a long time to produce an end product (e.g. using clay moulds), others take less (e.g. plasticine)". Another mother's candid response was "I honestly feel that my child was rather young for such a project and at times showed little interest".

Some parents felt that through the project their child had become more independent in the use of materials, more self-confident and patient, had developed an interest and had discovered that "parents are still learning new things, even at our age!" The results concerning language learning were less clear. Most children appeared to find technical art vocabulary easy to learn but whether they used it or continued to use it varied from child to child. Of their relationships with their children, one parent reported that she felt closer to and trusted her daughter more, whilst another found working with her child a strain. Parents' comments about the school were pleasingly favourable. They felt that they learned more about the school and had got to know staff. They appreciated the school's "constructive and positive approach to parental involvement", the "relaxed and positive atmosphere" and the way in which "children's creative contributions are taken seriously".

Parents also enjoyed meeting one another and sharing viewpoints. One parent, new to the area, commented that it was a good way to meet people. Mothers also discussed their children's development and it was reassuring "to know that your child is coming along the same as the others". Obviously there might also be dangers in such comparisons if wide gaps in development were revealed by these discussions. All parents commented that they would like the project to continue, although some suggested that it might be better with older children and with more times and days on offer. They also suggested more clay and plasticine work for the children.

Overall it was agreed the project was worthwhile and enjoyable. We found it a useful way of bridging home and school and parents enjoyed tackling something new together with their children. Perhaps most important was that most people - parents, children and the Head Teacher - experienced a sense of enjoyment.

Tizard, B. and Hughes, M. (1984)
Young Children Learning Fontana

Wells, G. (1984)
Language Development in the Pre-school Years Cambridge University Press

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THE CAMBRIDGE LITERACY PROJECT: PARTNERS IN LITERACY

LYNDA PEARCE

As the Advisory Teacher for Reading for Special Needs in the Cambridge area of Cambridgeshire, I had run an In-service Course for teachers on Parental Involvement in Literacy. Several of these teachers helped me to instigate a local parental involvement project, selecting target children according to their needs. The children came from a wide variety of backgrounds, all living in and around Cambridge. Several of the children were not experiencing any severe problems but still required positive intervention to enable them to become better readers. Others were experiencing severe difficulties with specific areas such as acquiring a basic sight vocabulary, applying flexible reading strategies, spelling and handwriting. Many were helped as part of a larger school project and others were referred to either specialist teachers or to educational psychologists for advice on appropriate individual parental help programmes. The children varied in age and ability and a variety of approaches were utilised including Paired Reading and Precision Teaching.

Initially, a time commitment of six weeks was set, but this was often extended where parents wished to continue. As the work was individualised and varied it was impossible to produce quantitative results. However, the increase in the childrens' enthusiasm for and enjoyment of books, their pleasure in writing and confidence in sharing books with their parents were clearly visible. Children who had been late in starting to read began to read and reread picture books with their parents at home, and some with word retention difficulties were greatly helped by playing word games or using Precision Teaching techniques, alongside reading for pleasure. Of previous home school projects, relatively few have been concerned with spelling and handwriting. However, the Cambridge Project included work with parents on these areas with very promising results. Children who had felt unable to spell were helped towards becoming better spellers, whilst others were encouraged to write more legibly and with greater ease and enjoyment.

From the Cambridge Literacy project 'Partners in Literacy' was developed: a resource based on established reading theory as well as the experience of parents who had seen success in the projects with their children. Several of the parents and children helped to make the videos, which are used to demonstrate the teaching approaches. There is also a teachers' manual and booklets for parents. The 'Partners in Literacy' package is to be published shortly by LDA.

I was aware of the total commitment and enthusiasm of the parents involved and of the outstanding gains in terms of increased confidence and ability of the children. Much of the success appeared to be due to a decrease in the anxiety levels of both the parents and the children regarding the ability to learn, and a warm collaborative caring approach to working together regularly.

At the 1988 Paired Reading Conference in Kirklees I led a session on the Partners in Literacy Project and materials. Around forty teachers attended the session. Many of these teachers have written to me and are intending to instigate their own Parental Involvement Projects.

The materials will be available next month and consist of a 90 minute video, with eight modules: Using Picture Books, Beginning to Read Alone, Monitoring Progress, Word Games, Reading is Understanding, Paired Reading, Practising Handwriting, Helping your Child to Spell; a comprehensive teachers' manual and eight corresponding booklets for parents.

Lynda Pearce may be contacted at: CASET Team, CEDC, Ascham Road, Cambridge, LDA are at Duke Street, Wisbech, Cambridgeshire, PE13 2AE.

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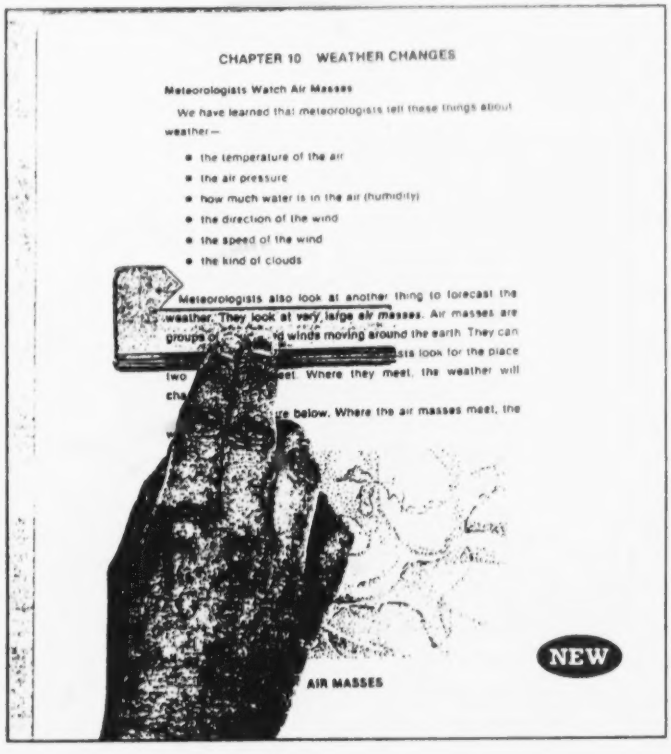
CHAPTER 10 WEATHER CHANGES
Meteorologists Watch Air Masses
We have learned that meteorologists tell these things about weather—
the temperature of the air
the air pressure
how much water is in the air (humidity)
the direction of the wind
the speed of the wind
the kind of clouds
Meteorologists also look at another thing to forecast the weather. They look at very large air masses. Air masses are
winds moving around the earth. They can
look for the place
Where they meet, the weather will
below. Where the air masses meet, the
NEW
AIR MASSES

CAPER - CHILDREN AND PARENTS ENJOYING READING

Lynda Edwards

The CAPER project aims to promote the closest possible partnership between parents, children and teachers and to present reading as an enjoyable experience. The project has continued to expand, and now the majority of primary schools and a growing number of secondary schools are taking part. Staffing comprises a full time organiser (the author), a clerical support worker and a number of volunteer helpers who assist with the organisation of materials for schools and with running the CAPER bookshop.

The role of the organiser has been further modified to meet the demands made by participating schools. The tasks were as follows:-

a) Provision of INSET courses for schools new to the project.
b) Provision of support for schools developing the CAPER approach at INSET courses.
c) Provision of materials to schools involved at varying stages of development.
d) Introduction of parents to the scheme.
e) Working with parents on ways to listen to children read.
f) Setting up parent Book Groups.
g) Liaison with staff at the Education Library and Resources Centre to present new publications of children's books.

In Service Training

Links with schools are made at in-service meetings to introduce the project and develop good practice. Courses take place during the spring and summer terms. Inter-school links are forged and exchanges of approaches and ideas ensue. Meetings are arranged as follows:-

a) Four one-day courses interspersed during the spring and summer term.
b) Eight evening sessions for those unable to attend during the day.
c) Five sessions to plan an introductory course.
d) One introductory course presented at four evening sessions.
e) School based meetings to introduce the project in schools.
f) Meetings held with school staff developing the CAPER approach.

Courses provided participants with practical suggestions for development and an opportunity to discuss and formulate future strategies.

The planning team, which included four teachers and the organiser, designed a course which was both informative and practical. An evaluation showed that participants felt confident to introduce the project in their schools. Courses involving teachers in other schools contained advice on maintaining the project, reviewing new publications of children's literature and the preparation of a report to the school and organiser. The outcome has been a number of accounts of activities in many schools (for example see Appendix).

Developments During the Year

The increase in numbers of schools requesting involvement in the scheme has been one of the most significant developments. External support has been an important part of its development and the provision of adequate reinforcement

relied upon the commitment of staff and groups of volunteer helpers. Reports received from schools stressed the enthusiasm the scheme had generated and it was felt that the aims set out at the commencement of the year had been achieved.

The introduction of CAPER Book Groups arose from requests from parents to set up volunteer groups, the purpose of which would be to promote children's literature. One group has contacted the Federation of Children's Book Groups and will receive information and support from the Federation for future events. This will be the first group in the Federation to be set up in Wales.

Developments at secondary level are now underway and a small number of comprehensive schools will participate in an evaluation exercise which hopefully will lead to the setting up of their own schemes. Plans are now in progress with staff outlining their aims and objectives and preparing materials. Enquiries have been received from local education authorities in England, Scotland and Northern Ireland. Information has also been forwarded to the USA and Canada.

The organiser has received material devised by teachers in other authorities which have adopted the CAPER approach. The work of the project in West Glamorgan schools has been presented at a Conference on Reading at the University of Aberystwyth and at the National Paired Reading Conference at Dewsbury.

Promotional and Support Activities

A catalogue of new publications of children's literature was prepared with the assistance of the Senior Assistant Librarian. The CAPER Bookshow Catalogue forms part of a display of suitable books for CAPER. Teachers take advantage of this to keep up to date with new publications and to promote a new selection for schools.

A number of activities take place during the year. A group of teachers devised a competition to 'Design a Book' or produce a series of photographs depicting 'Reading is _____'. Entries were displayed at County Hall foyer and local book shops. Prizes were provided by the CAPER School Bookshop and local booksellers donated a number of individual prizes. Schools also received books for their school library.

A wide selection of books was received from groups of parents and teachers, teachers and children and parents and children. 'Feely' books were designed for young children to develop early language and others for blind persons. A hand sewn, fabric book written by a child and designed by a parent depicted the five senses. Story books, picture books, pop-ups, activities with books, gave an impressive display. A special mention is made of 'Donna Probert's Pigeon' - a story centred in Swansea featuring a local school and district. It is hoped to publish some of the entries as such visual presentations have further stimulated children's interest.

Evaluation

An informal means of evaluation has presented these observations. A survey of schools participating in the scheme during the Autumn Term 1987 resulted in the following information.

Number of Schools involved	81
Estimated number of children	10,000
Estimated number of teachers	350

The majority of children taking part range from Nursery to J1 levels. Fifty schools sent representatives to INSET courses during the past year 1987/88. A number of schools have set up a school bookshop and as a result it is estimated that over 2,000 copies of children's literature have been circulated to children, parents and schools during the past two years. Teachers' evaluation of comment booklets has shown an overwhelming majority of parents respond positively to the scheme and participate enthusiastically. Parents are encouraged to give their views at events organised by schools to encourage parental participation.

It is envisages that future INSET meetings will focus on a formal evaluation of the work. Materials collated during the past three years are displayed at the CAPER office and listed as follows:

1. Display of 400 books with accompanying catalogue. Loaned by the Library Resources centre.
2. Display of 'Comment Booklets' of various designs giving parental responses.
3. Supply of material for setting up the project in schools.
4. Advice on presentation of materials for display in schools.
5. Small, mobile display of CAPER materials on loan to schools.
6. Samples of books written and designed by parents, teachers and children.
7. Advice on setting up a School Bookshop.
8. Display of books for schools.
9. Catalogues of new publications.
10. Selection of books on the teaching of reading.
11. Research papers and articles on parental help and reading.
12. Videos and tapes of school events and activities.
13. Booklets giving advice to parents on ways to help children read.
14. Information on setting up parent book groups.
15. Copies of reports from schools in the Authority.
16. Copies of reports received from schools outside the Authority.
17. CAPER annual reports.

Conclusion

For reading to be improved, the habit of reading must be developed along with the realisation that learning can be fun. A child's motivation to read for pleasure may be given an extra dimension if the child is afforded the opportunity to participate in a programme of parental involvement in reading. The schools' response to such an initiative has resulted in an exciting and challenging assignment; one which promotes positive attitudes and close liaison between home, school and child. It is the continuing aim of CAPER to ensure that the current interest and support should be further consolidated, strengthened and extended so that ever increasing numbers of children may find their lives enriched.

Appendix

CWMRHYDYCEIRW PRIMARY SCHOOL NURSERY CLASS

CAPER PROGRESS

Miss L Edwards came to talk to our parents about CAPER on April 29th, 1988. Parents wished to start using the books straight away, so that it is what happened. CAPER has been running for two months now and we are very satisfied with our progress. We feel that we are fulfilling our aims and objectives and that everyone is benefiting from the scheme.

Main Nursery: Two sessions each day.

The CAPER books are set out in the small withdrawal room. Parents can come in to choose a book with their child at the beginning or the end of the session, whichever suits them. The atmosphere is relaxed and friendly with parents chatting to one another and to us. The procedure takes about ten minutes each session. Parents now help by writing down the reference numbers of the books the children have taken so it is not essential for me to be in the room each day.

I have collected the comment booklets in from time to time to see which books the children are enjoying, to read and respond to any comments or to add encouragement. The comment booklets have been used to a certain extent but many more comments have been verbal. Comments on the whole have been very favourable. Parents are enjoying the choice of books and the chance to use them.

Cataloguing and recording has not been a problem. A simple system of listing each book and giving it a number and a letter has been used. 'N' for our own books 'R' for Resources books (pencil used!). We then have a separate book containing each child's name. The date and book number e.g. 26N or 30R is written under the child's name when he or she returns one book and chooses another. I can easily check my booklist if I wish to know which book a child has taken home. Parents are now recording the books chosen.

Problems:

No problems encountered as far as I am concerned. One session of parents seem rather more enthusiastic than the other session. There are more comments between these parents about the books; they recommend books to each other and they are more spontaneous in giving assistance with the recording. It is fair to say that these same parents are more enthusiastic about other aspects of nursery life also e.g. helping with the cookery.

Advantages:

1. The parents have a positive reason for coming into the nursery without feeling that they might be intruding.

2. Selection time provides us with the opportunity to get to know the parents a little better.

3. One parent's talent has come to light by her offering to make one or two posters illustrating favourite characters or books.

4. We now know the children are having story books to look at at home. Some children have two, three or more a week, others only one, but that is better than nothing!

5. The children's awareness of books seems to have improved. They are more respectful of the books, handling them with care, discussing them with or "reading" them to each other. Story recall, observation and prediction skills have improved and some children are beginning to remember authors and other books they have written.

6. I feel I have a better knowledge of authors and suitable books for the age group I am teaching and I am more aware of what the class enjoys.

Lynda Edwards, CAPER Organiser, may be contacted at the Schools' Psychological Service, Morfydd House, Morfydd Street, Morriston, Swansea SA6 8EW, telephone 0792 310156, extension 133.

A very practical and well presented book for teachers, enabling replication of the CAPER approach, is:-

Branston, P. and Provis, M. (1986)
Children and Parents Enjoying Reading: a handbook for teachers.
London Hodder and Stoughton

PARENTS AS EDUCATORS: Training Parents to Teach their Children
Keith Topping, Educational Psychologist Kirklees Metropolitan Council Huddersfield

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Companion Reading

Direct Instruction combined with Peer Tutoring and Parent Involvement.

Mary Grange

Special Needs staff at Deighton Junior School first encountered Companion Reading in November 1987 at a Kirklees Psychological Service Development Day. We already had a comprehensive programme of parent and peer tutored Paired Reading, which resulted in almost 100% of fourth year leavers having taken part either as tutees, tutors or, ideally and in many cases, both. The only group of children who did not have any direct experience of peer tutoring were our seven year old entrants to the school. Additionally, parents of children attending the Special Needs Department were encouraged to come and work with their children, 25% of such parents being involved.

We were looking for ways to extend parental involvement and to bring some peer tutoring into the first year curriculum. I had read several articles (e.g. Gregory, 1986: Gersten et al., 1983) and was interested in Direct Instruction methods of teaching, but the heavy time commitment for most programmes would have meant that I would have had to abandon some of our existing timetable. This I was reluctant to do. Companion Reading appeared, at face value, to fit our needs fairly closely. We could incorporate the Direct Instruction teaching alongside peer tutoring and at the same time involve a larger number of parents in their children's work. The combination of three powerful techniques looked exciting and promising. We decided to take it on board for three years' trial, supported and partially funded by our Psychological Service. (It did occur to us that our presence at the day's course may not have been entirely accidental!)

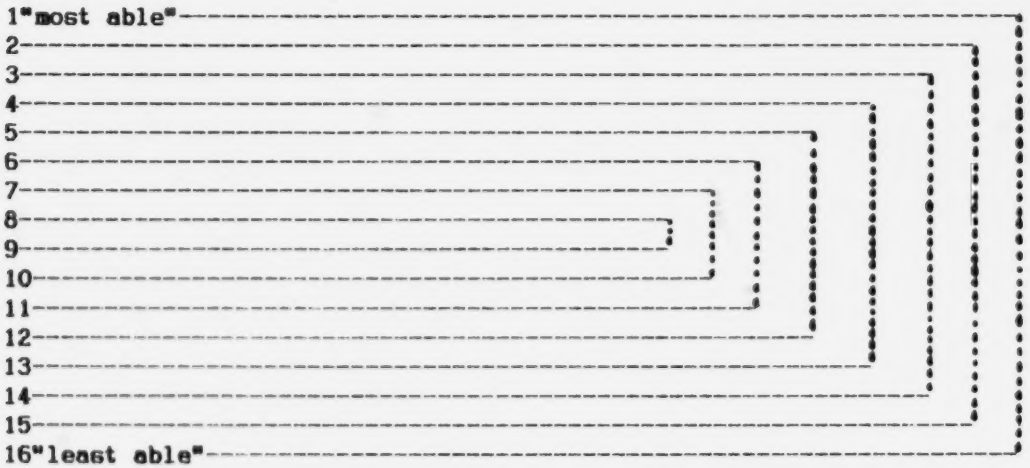
Companion Reading is a complete package of materials developed in Utah and published by Metra-Summerhays. For schools constrained by low budgets it is expensive and we almost certainly could not have taken it on without some financial support; it would have eaten up far too big a slice of the money available to us. It consists of a large manual, books of Companion Reading Exercises for peer tutoring and masters for reading exercises and individual worksheets. It is designed primarily for American first grade children - our middle infants - but has been used with older failing readers both in the U.S. and in this country at Walsall.

Its main point of departure from traditional reading schemes on this side of the Atlantic lies in its simultaneous introduction of sight vocabulary and decoding skills. This takes place from day one and the two categories of words are made explicit to the children. Children are taught in a group and each lesson consists of a short period of direct instruction followed by a session of peer tutoring, some written work based on material currently being taught and finally some reading exercises. At a convenient point during the session the children are checked for mastery of the material, the criterion for moving on to the next unit being 80% mastery for 80% of the children. Additional material is provided for those children who need extra work to achieve mastery level. The recommended teacher/child ratio is one to sixteen.

The purpose of this article is to give a progress report on our first year with the programme at Deighton. As in all the best trials we began with a major hitch. We had almost completed our reading screening tests when I disappeared for the rest of the half term and part of the next after some unexpected surgery! My colleagues completed the tests and the whole thing was postponed until after Christmas, the children being offered our existing programmes of work. Accordingly, in January we began.

The first task was to assign the children to peer tutoring pairs. Peer tutoring in Companion Reading is unusual in that it is reciprocal. One child takes the tutor role first and then exchanges with his or her partner and becomes the tutee. Pairs are not selected on the usual basis of a two year reading level gap between tutor and tutee. In Companion Reading the children are ranked according to their teacher's subjective estimate of their ability and maturity combined. The "most able" child is then paired with the "least able" and so on towards the middle of the group.

Rank Ordering and Assignment of Peer Tutors.



In peer tutoring sessions, the less able child takes the role of the tutor first. This may seem heresy, but in fact the likelihood is that the more able "tutee" will provide an extra correct model for their "tutor" who will thus need to make few error corrections. The pair then reverse roles and the new tutee receives appropriate corrections for any errors made from the more able tutor. The children are taught at the outset how to correct their partners' mistakes without being negative.

The number of children needing Special Needs support this year has been much greater than in previous years. Eighty three per cent of this year group were found to be below chronological age on the Edinburgh Group Reading Test on entry to the school. We therefore decided to take in thirty children to Companion Reading groups and work with two special needs teachers actually teaching the Programme, one supporting class teacher for the group to monitor written work and assist in mastery checking and parents who wished to work with their children in the Special Needs Department. We were unhappy about the large number in the group but saw little alternative. The children presented a picture of low reading

comprehension levels and poor interpersonal skills. This last is a feature of children at Deighton Junior School and was one of our main reasons for wanting to do some peer tutoring right from the outset. Whilst not claiming that affective gains were a higher priority for us than reading gains, they were certainly close to the top of our list.

We took a short course in Direct Instruction teaching methods and read and re-read the manual, which describes the formats and style very thoroughly. Our initial reaction was one of surprise and pleasure at the children's response to our less than perfect efforts. They learned the formats with amazing speed and their enjoyment in this section of the lesson was obvious.

Peer tutoring proved a less straightforward proposition. Peer tutored Paired Reading is a task involving the learning of a specific technique which is then applied in a problem-solving context of considerable complexity. Companion Reading peer tutoring presents as relatively simple - again a specific technique but this time applied to a drill and practice task. It looked as though, with our knowledge of peer tutored Paired Reading, we were going to find this easy. We were wrong. Our list of "difficult pairs" began to grow. Had we been wrong in our selection of the children as partners? Should we stick with the couples we had chosen or let them choose? We decided to let the existing pairs run for a while and try to shape them into more positive interactions. One fascinating problem were the two children who completely refused during their first few sessions to take the role of tutee. Having been delighted to be selected as tutors first (they were"less able"children), we then met with point blank refusals when they were asked to change roles. Here our experiences over many phases of Paired Reading helped. "Stick with it" became our catchphrase and slowly they began to relax and get on with the task.

More general difficulties seemed concerned with the children's lack of experience in simply sitting with another child, working together on a task co-operatively and reducing the "nag factor" of swinging legs and poking hands. Again they were quick to learn the task. A video made within two weeks of starting the programme shows that they had absorbed what was asked of them extremely well. Our response to these difficulties has been to try to "catch the pair being good"; to ignore unco-operative behaviour in the peer tutoring situation and to keep our rates of praise high for those children working well together. At first it all seemed a far cry from Paired Reading experiences where, with older children, negative interactions were few and far between and sessions were among the most pleasant in a teaching day. We persevered, however, and most pairs are now working well together. Some still have"off" days, but for many of them life outside school is hard and often confusing. We feel that, for these children, we are at least laying down some foundations for co-operative behaviour which we hope will bear fruit in the next three years. Teaching them peer tutored Paired Reading should be very straightforward after this amount of positive input!

The element of written work in the programme takes up about a third of the allotted daily 75 minutes. It is carefully structured to give practice in material already learned and in the reading and understanding, through written application, of new words and sounds. Because of low levels of

attainment we needed to cue this very carefully at the beginning of the programme but can now relax a little more and let some individuality creep into the children's work.

Mastery checking takes place during the written work part of the lesson and, from the outset, we decided to keep it low key. A group of about five children surfaced as being in regular need of extra teaching to gain mastery level. We had set aside one session a week for this purpose and were glad we had. Children are taught using the same methods, including peer tutoring, using the supplementary material in the programme. Of the five, three are now regularly succeeding in the main group without extra support and two are reaching levels of mastery so low (just above 50%) that they are now receiving other help involving much slower introduction of new material.

The major change through the year concerned the size of the group. Our initial reservations were justified in that it became difficult to monitor and get to know individual children's learning styles within the context of the large group. We split into two smaller units in February, each with one teacher and varying degrees of support from other staff and parents. We are now able to be more flexible and to monitor the learning more closely.

The role of parents in Companion Reading is defined as rehearsing for fluency and in celebrating their child's success through a weekly "Share Sheet". This goes home when the child has achieved mastery of the material in a unit as sampled by the Share Sheet. It usually takes the form of a story, some review material and rehearsal of new words and sounds. Parents are asked to send back a completed slip the next day to acknowledge receipt of this to record the number of times the sheet was read. Levels of return this year have varied but are currently very low. On the last three sheets fewer than six children have brought back the notes. We held a parents' evening in January which was well attended - 17 out of 30 families. Three other families were then visited as their children are in our Speech and Language Unit and contact made with another four at a workshop session held each week in the Special Needs Department. Twenty four parents have thus been seen and the techniques required taught. We can only account for the current poor response in the light of research studies such as Project Follow Through in the U.S.A., which indicate that levels of participation in school programmes remain low in areas of educational and socio-economic disadvantage. Kirklees research, as reported in Paired Reading Bulletins, certainly shows very different levels of active parental involvement in Paired Reading. We shall have a follow up meeting at the end of this term to get some feedback and try to find ways of improving this element next year. Parents who have supported their children in the sessions initially reported feeling diffident but are now more positive in the smaller groups. Two volunteer "donor" parents who have worked with us for several years now undertake some mastery checking and have encouraged new parents to get involved more in working with their own children.

We are now almost at the stage of retesting the children on the Edinburgh Group Reading Test. Certain things are happening to the children which encourage us to continue with the programme. All of the children complete a "phonic sheet" with their class teacher at the end of each year and this population have appeared far more confident with this than previous groups

of first year children attending Special Needs Department lessons. Teachers report that they are confident and positive in trying to blend unfamiliar words and are prepared to have a try, whereas usually the picture is one of early failure. This confidence has spread to other reading(which is heard throughout the school by the Paired Reading method) and has been noted by both class teachers and special needs teachers. Co-operative behaviour is at last beginning to surface in the classroom in other situations than the carefully structured Companion Reading sessions. Above all, the children like it and, although it is tiring teaching, so do all the teachers involved. We recently replicated a small study done in Walsall (Arblaster et al., 1988) and found that, as in Walsall, Companion Reading came out as an activity preferred by the children. Twenty out of twenty five children taking part in the experiment put Companion Reading together with Art at the top of a list of five school activities, the others being Maths, playtime and P.E.

Much work remains to be done. We are interested to see if these children will have maintained any improvement in their interpersonal skills later in their Junior School careers and intend to look at this, their self esteem and their reading levels in detail at the end of their third year with us. Meanwhile we are glad that we began. The difficulties encountered in helping these children towards positive interactions through peer tutoring have served to illustrate for us the desperate need to approach this set of problems at the earliest stage possible.

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Appendix

The Edinburgh Reading Tests were administered shortly after the first year children entered the school and again near the end of the year's teaching programme in June 1989. All children took part and the results are shown below in three groups:

Group A Children receiving no Special Needs Department support.
Group B Children taking part in Companion Reading.
Group C Children receiving other Special Needs Department support.

Results shown are for all the children in the year group who were present on both testing days. Quotients were calculated using the single sex tables. "Other Special Needs Department help" consisted of our usual (pre-Companion Reading) provision. Children placed in this group were those who we felt were "borderline" in terms of needing our support.

EDINBURGH READING TEST STAGE 1: READING QUOTIENTS

	September mean (s.d.)	June mean (s.d.)	Gain mean (s.d.)
Group A (n = 11)	99.27 (10.83)	114.00 (9.02)	+ 15.45 (4.76)
Group A (n = 22)	76.14 (6.64)	85.68 (10.32)	+ 9.55 (8.08)
Group C (n = 4)	84.00 (3.67)	89.25 (1.79)	+ 5.25 (2.17)
Whole Group (n = 37)	83.86 (12.97)	94.49 (15.82)	+ 10.84 (7.53)

Although Group C contains only four children, data for a previous year (1984) suggest the gains of this group are typical. The mean quotient increase for Special Needs children in 1984 was 3.17. Our cautious optimism before this last round of testing seems to be supported by the data. Subjective impressions of increased confidence and ability are borne out by the Companion Reading children's performance on the test. For this group, accelerated progress has been made and apparently at almost twice the rate made by our Special Needs children not involved in Companion Reading. Although a great deal of further data collection and analysis needs to take place, this preliminary look at the results certainly encourages us to continue with the programme.

NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS

CUED SPELLING IN ADULT LITERACY

The students involved in the Cued Spelling project based at the Victoria Centre in Dewsbury and co-ordinated by Mary Fellowes (see Ros Harrison's report in this issue) wrote about their experiences with C.S. One of the problems with A.B.E. students is finding "reasons to write" - and this gave them one! Their texts, together with some reports in written and graphic form from their "tutors", were incorporated in a special "Cued Spelling" issue of their regular magazine - "WORDS FROM DEWSBURY". Copies of this may be obtained from the Kirklees Paired Learning Project, while stocks last.

NEW WAYS WITH SPELLING

Liz Oxley and Keith Topping

Many teachers are now familiar with the technique of Paired Reading, the effectiveness of which has recently been given wide coverage in the national press. It was logical to extend a similar approach to other areas of the curriculum, and so the new technique of Cued Spelling was created.

Cued Spelling is like Paired Reading - a simple and enjoyable technique for one-to-one tutoring by non-professionals on a brief but regular basis. Cued Spelling raises confidence and motivation without needing any special materials. It is used by parents with children at home, in peer tutoring projects in school, and with adults with spelling problems who are tutored by spouses, other relatives, friends or workmates. Spelling skills need no longer be hard to teach and boring to learn.

In many ways, spelling has been a neglected area of the curriculum, attracting little interest by way of research and development. For such a fundamental basic skill, with which so many people have difficulty irrespective of the level of their education, this is perhaps surprising. There is also considerable disagreement in the teaching profession about the "correct" approach to teaching spelling. Some teachers feel that spelling skills are "caught" as a by-product of the stimulation of creative writing, while other teachers argue that spelling most certainly has to be "taught".

Those teachers who believe that spelling skills need to be "taught" are often preoccupied with the phonic basis of spelling. Unfortunately, the spelling of less than half of the words in the English language proves to be phonically regular. As a second strategy, such teachers often teach "spelling rules", but again the complexities of the English language mean that vast numbers of rules and exceptions thereto need to be remembered. How many well-educated adults can remember any but a few of the spelling rules they were taught at school?

More specialist approaches might include the use of computer programmes, dictionaries structured to make them easier for child access (e.g. phonic dictionaries), tactile or kinaesthetic methods and approaches based on expensive audio-visual technology (e.g. 'ARROW'). In recent years, relevant commercial materials have become more widely available, a particular favourite being the Blackwell Spelling Workshop. However, much less expensive, and much more practical for the busy teacher, is a simple routine which does not require special materials and can be applied to any word presenting difficulties. The best example of this so far is undoubtedly Cripps' "Look-Cover-Write-Check" procedure.

Many of the traditional ways of teaching spelling were based on the teacher directly instructing the whole class, perhaps coupled with some "drill" and certainly with frequent "spelling tests". However, recent research has indicated that (just as with reading) there are many different individual pathways to becoming a successful speller. Thus the way the teacher manages to spell correctly will not necessarily be the best way for all pupils to learn to spell correctly. So there is now much more emphasis placed on a style of teaching which encourages each pupil to develop the "mnemonic strategies" which work best for them. Coupled with this is a tendency to move away from intensive teaching of high frequency commonly mis-spelt words and towards at least equivalent emphasis on encouraging children to learn to spell words that are of high interest to them.

Simultaneously, more and more teachers have become interested in co-operative learning, where the teacher organises effective learning between pairs of children or in small groups, rather than relying on the transmission of "education" direct from teacher to child. Of course, all teachers have always had children "in groups" at some stage of the school day, but the profession is becoming much more sophisticated at organising situations so that effective co-operative learning actually occurs between the children in the group.

Cued Spelling was designed to dovetail with these recent trends. The technique clearly needed to be very flexible, since it might be applied by students of an enormous range of age and ability to word sets of infinite variety and complexity. It was also important that the technique be "failure free", to eliminate pupil anxiety and promote self-confidence, so swift error correction and support procedures needed to be built in. It had to be simple yet structured and user-friendly and durable at the same time.

As in Paired Reading, the approach to spelling was to encourage children to pursue their own interests, and be able to choose high interest individualised material with which to work. The children themselves were to be left at least partially in control of their own learning, and a strong emphasis on understanding would go along with this. It was felt that the technique needed to incorporate demonstration of successful spelling for the pupil to directly imitate, modelling having been proved to be a powerful and efficient vehicle for learning. Recognition of errors should be as swift as possible. A good deal of specific praise was also to be a feature. Above all, it was important that the Cued Spelling technique was clear, straightforward and enjoyable, so that both tutor and tutee could be easily trained in its use and neither one of the pair would subsequently become confused, anxious or bad-tempered about their spelling work.

The Cued Spelling Technique

The basic structure of the technique was developed in 1986. At its simplest, it comprises 10 Steps, 4 Points to Remember and 2 Reviews. The 10 Steps and 4 Points apply to every individual target word worked upon by the pair, while the "Speed Review" covers all target words for a particular session, and the "Mastery Review" covers all the target words for one week, or a longer period.

The system works in the one-to-one tutoring situation. As well as proving very successful in the Adult Literacy field, the technique lends itself to parental tutoring of children at home. Parents do report finding it "harder work" than Paired Reading, and home-based Cued Spelling projects are usually kept relatively brief. However, the technique is ideal for peer tutoring in schools. It can either work on the usual peer tutorial basis of assigning a tutor who is more able in spelling than the tutee to each pair, or on a reciprocal basis in pairs of equal spelling ability. In this latter arrangement, the role of tutor could alternate from word to word, session to session or week to week.

First, the tutee chooses high-interest target words irrespective of complexity or difficulty (Step 1). The pair check the correct spelling of the word and put a "master" version in their Cued Spelling Diary, and usually also at the top of a piece of paper on which subsequent attempts will be made. The pair read the word out loud simultaneously, then the tutee reads the word out loud alone, ensuring tutee capability of accurate reading and articulation.

The tutee then chooses Cues (prompts or reminders) to enable him or her to remember the structure of the word. These Cues may be phonic sounds, letter names, syllables or other fragments of words, or wholly idiosyncratic mnemonic devices. Tutees are encouraged to consider and choose Cues which fit well with their own way of thinking, i.e. make sense and are memorable to them. Thus, although a tutor might make suggestions or stimulate imagination, the decision about Cues rests completely with the tutee.

Once Cues are decided upon, the pair say the Cues out loud simultaneously (Step 5). The tutee then says the Cues out loud while the tutor writes the word down to this "dictation" - thus the tutee is provided with a demonstrational model of the required behaviour. At Step 7, the tutor says the Cues out loud while the tutee writes the word down. At Step 8 the tutee says the Cues and writes the word simultaneously.

At Step 9 the tutee is required by the tutor to write the word as fast as possible (the tutee may or may not decide to recite the Cues out loud at this Step, but may well recite them "in their head"). At Step 10, the tutee again reads the word out loud, as a reminder of the meaningful context in which the target word hopefully has remained embedded.

The 4 Points cover aspects of the technique relevant to its practical application. At every attempt at writing a target word, the tutor is required to cover up previous attempts on the rough worksheet, to avoid the possibility of direct copying, although in fact some tutees prefer to carry out this covering themselves. Every time there is a written attempt at a target word, the tutee checks the attempt against the 'master' version and the tutor only intervenes if the tutee proves unable to check his or her own attempt accurately.

If tutees have written a word incorrectly, they are encouraged to cross it out very vigorously to assist its deletion from their memory. At an incorrect attempt, the correction procedure is merely that the pair return to the Step preceding the one at which the error occurred. Tutors are required to praise at various junctures which are specified in the more detailed instructions. These precise details of the nature of praise and the criteria for its application are intended to promote higher frequency and regularity of praise as well as more effective use of it.

At the end of each tutoring session, there is a "Speed Review", wherein the tutor requires the tutee to write all the target words for that session as fast as possible from dictation in random order. The tutee then self-checks all the words with the Diary. Target words which are incorrect at Speed Review have the 10 Steps applied again. In fact, tutees make only a small proportion of errors at Speed Review, and the requirement to re-apply the 10 Steps is not as onerous as it sounds.

At the end of each week, a "Mastery Review" is conducted, wherein the tutee is required to write all the target words for the whole week as fast as possible in random order. No specific error correction procedure is prescribed for Mastery Review, and it is left to the pair to negotiate for themselves what they wish to do about errors. In fact, many pairs choose to include failed words in the next week's target words.

All of this may seem very complicated at first sight, and indeed the Cued Spelling technique is more complicated than Paired Reading. However, it is

much easier to actually do than it is to read about, and children as young as 7 years old have been effectively trained in the technique in groups in considerably less than 1 hour. The technique has other subtleties and various options, of which further details will be found in the Cued Spelling Training Pack (see footnote).

Organising Peer Tutored Cued Spelling

It may well prove a good idea to experiment with a few "volunteers" in the first instance, but have at least 4 or 5 pairs involved so that they form a significant socially supportive group in the class. To start with, include children with various levels of spelling skill - don't try to "cure" all your worst spellers overnight. The other children in the class can do other kinds of English work while the Cued Spelling is in session.

If you have a mixed-age class, you may for social reasons wish to have all the tutors older than the tutees. If this is the case, the tutors should clearly be more capable spellers than the tutees, with a differential of at least one year of "spelling age" between the pair. However, if all the volunteers are the same age, you may choose to operate reciprocal tutoring in pairs of equal spelling ability, where the jobs of the tutor and tutee are quite clearly defined, but members of the pair change jobs at points or times specified by the teacher. Remember that each pair should consistently operate either "standard" or "reciprocal" tutoring, and avoid any muddled combination of the two. Do not worry unduly about the sex combination in tutorial pairings. However, it is as well to avoid pairing up children who already have a very strong relationship with each other, be it good or bad. Also avoid pairing very dominant with very timorous personalities. You may wish to appoint a "supply tutor" to cover absence.

You should initially schedule Cued Spelling to occur about three times a week for a period of approximately 30 minutes. Obviously, sessions on Monday, Wednesday and Friday are preferable. After the first few sessions, each pair should be working on at least 5 words per session, although fewer words per session is usual to start with as the children get used to the technique.

For initial training, sit tutors and tutees together in their pairs. Provide each pair with a "10 Steps Chart" to keep and refer to. Tell them about the 10 Steps referring to the chart as you go. Then demonstrate the technique in action, either with yourself and one of the tutees, or by using a "graduate" pair from a previous project, or via a training video. Have each pair practise the technique, perhaps on pre-chosen words, while you circulate to see how they are going on, and provide feedback and give praise as appropriate. Later in the session, train the pairs to carry out a Speed Review in the same sort of way. At the end of the first week, train the pairs to do a Mastery Review likewise.

Where tutees are given a completely free choice of words to incorporate in Cued Spelling sessions, difficulties can arise. Sometimes tutees just don't have enough ideas. Other tutees may become far too over-ambitious, and choose words so obscure and complicated that even if they are able via Cued Spelling to remember them, they are unlikely ever to actually need to be able to spell them. Some pairs lock into a particular theme, such as Geography or Sport, and while this is motivating up to a point, take care it does not become excessively narrowing.

While it is fun to be able to choose your own words, it is important that the children use this freedom responsibly. They will need frequent reminders that the whole point of the exercise is learning to spell better, and that the most important indicator of this will be a reduction in spelling errors in their everyday free writing, coupled with an increase in the usage of more complex words which are spelt correctly. So teachers will certainly want to encourage children to "choose" to include in their Cued Spelling sessions words which have presented regular problems in free writing, and some teachers go so far as to ask that in every Cued Spelling session at least two of the five words are included on this basis.

When Cued Spelling is in full swing, the co-ordinating class teacher continues to circulate to ensure all is going smoothly, much as in any other kind of groupwork. Children are encouraged to refer any difficulties or problems to the teacher for advice. The CS Diary forms a continuous record which is easily checked by the teacher.

Points to watch when monitoring include the pair's organisation of the necessary items on the table space available - the 10 Steps Chart, CS Diary, dictionary, rough paper for attempts and a covering card need to be kept to hand and other clutter put away. Check that mistakes are corrected properly, and over-generosity does not creep in. Ensure incorrect attempts are heavily deleted. Encourage an emphasis on speed (especially during Speed Review) and a high level of time on task. Make sure the quantity and quality of verbal and written praise in the pairs is as high as possible, and keep an eye open for social friction developing in any pair. Some teachers like to collect favourite praise words and mnemonics on a Cued Spelling display board or in "good ideas" notebooks, and these can be illustrated. However, beware of pairs who like to create exotic mnemonics as an art form in itself, irrespective of any value in recalling the correct spelling!

An initial experimental period of 6 weeks of Cued Spelling is a popular choice. At the end, a complete Mastery Review of all words covered will give some indication of recall over the period. This should however be attempted in sections, as many tutees will be overwhelmed at the prospect of a "spelling test" comprising 90 words. This is also a good time to gather together the tutors and tutees, to discuss with them their reaction to the project and to see whether they wish to continue, or "rotate" to another kind of English activity.

Effectiveness

As with any peer tutoring project, teachers using Cued Spelling will expect to see evidence not just of academic benefits, but also of social and personal gains. Furthermore, these will be expected from both tutees and tutors.

Cued Spelling is a new technique. It does not yet have the huge body of effectiveness research available for Paired Reading, which was invented a decade earlier. However, the initial findings are extremely encouraging. Further details will be found in the Cued Spelling Training Pack (see footnote), and other articles are about to be published in academic journals.

Research on peer tutored Cued Spelling to date indicates that it can result in great improvements in social integration and cohesiveness within the class. This may extend to children operating peer tutoring in other curricular areas, without any prompting from the teacher. Rather withdrawn children subsequently tend to mix more freely and be more widely accepted by the "in

group". An increase in spontaneous praise and positive comments will often be found between children. The amount of helping and co-operative behaviour in the classroom often increases.

The children report finding the Cued Spelling experience more enjoyable than traditional ways of working on spelling. They appreciate the active and interactive nature of peer tutoring, and each pair comes to inject its own element of humour and creativity into the process. Although sometimes initially reluctant, both tutors and tutees begin to enjoy giving and receiving praise, and this generalises to other aspects of school life. Cued Spellers report using the technique in other lessons and even outside of school, and some begin Cued Spelling at home with younger children in the family.

A very common reaction from Cued Spellers is to report greater confidence in spelling. This is supported by test data from one study. Cued Spellers completed a "Self-Concept As A Speller" test on a before and after basis. Tutors showed substantial gains in self-concept and tutees even larger gains, compared to control groups.

The vast majority of Cued Spellers report finding the technique easy to learn to do, after they have done it for a few weeks. Some children report finding it hard to think of suitable words, emphasising the need to direct them towards their own free writing as a source for choosing. Cued Spellers also report increases in their ability to self-correct faulty spellings during the course of everyday free writing, i.e. they become more aware about words that "don't look right".

Performance on total Mastery Review at the end of Cued Spelling Projects will vary from pair to pair, according to the complexity and obscurity of the words chosen and the capability of the tutee to function adequately in a "test" situation. Clearly, if tutees have included in their first week of Cued Spelling highly obscure words that they have no need to utilise subsequently, the probability of successful recall of those words will be much reduced. Nevertheless, at final Mastery Review at the end of a project, you should expect an average of two-thirds of chosen words to be spelt correctly, even under the pressure of speed dictation. Some pairs will achieve almost 100%. Remember, of course, that CS works by heightening children's awareness of spelling generally, not just by the over-learning of a few chosen words, so you should expect some generalisation, i.e. fewer errors on words not chosen for CS as well.

Results on more traditional norm-referenced spelling tests such as the SPAR so far show that during Cued Spelling tutors are likely to improve spelling skills at almost three times "normal" rates of progress. Provisional results suggest that tutees tend to do less well than tutors, but still make gains at over twice "normal" rates of progress. These results are very comparable to the gains reported in the early Paired Reading studies.

With further "fine tuning" as a result of wider experience in using this new technique, it seems likely that effectiveness on a par with Paired Reading will be attained. Certainly, Cued Spelling has proved to be a technique which children as young as seven years can successfully utilise in a peer tutoring format after relatively brief training and using a minimum of special materials. However, close teacher supervision and adjustment of such a project is essential, until the optimum form of organisation has been determined by continued experimentation. The authors would be most pleased to hear from teachers who have used, extended or developed this method.

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This article first appeared in 'Junior Education' in September 1989, and our thanks are due to Scholastic publications for permission to reprint. An update on peer tutored Cued Spelling in the Primary school will be found in the article "Reciprocal Peer Tutored Cued Spelling" by Brierley et al. later in this issue of Paired Learning.

CUED SPELLING TRAINING PACK

Spelling skills need no longer be hard to teach and boring to learn.

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Cued Spelling raises confidence and motivation without special materials. It is used by parents with children at home, in peer tutoring projects in schools, and with adults with spelling problems who are tutored by spouses, other relatives, friends or workmates.

CONTENTS

1. Cued Spelling Diary
2. Handout - How To Do It (high readability)
3. Handout - How To Do It (lower readability)
4. Chart - The Ten Steps (low readability)
5. OHP transparency - The Ten Steps
6. Handout - Mnemonic Strategies
7. Pamphlet: Mnemonic Ideas
8. Teaching Notes (for use with training tape)
9. VHS Video: Cued Spelling Training (1 hour)
10. Pamphlet: Peer Tutored Cued Spelling in the Primary School
11. Pamphlet: Cued Spelling in Adult Literacy
12. Tutee Evaluative Questionnaire
13. "Ace Speller" Adhesive Badges (5)
14. "Master Speller" Pens (sample).

You can obtain only the paper materials, but this is not recommended unless you have easy access to a copy of the video locally. Further quantities of all items are available individually, but many users prefer to make extra copies of paper materials in-house. Permission for such copying is given on payment of a copyright waiver fee of 15% of the notional price of the copied materials. Any other copying is illegal.

Further details: Paired Learning Project, Oastler Centre, 103 New Street, Huddersfield, HD1 2UA, West Yorkshire, England telephone: 0484 422133

(Note that materials are available without charge to Kirklees teachers)

MULTIPLYING ATTAINMENTS THROUGH HOME SUPPORT: PARENTAL INVOLVEMENT IN MATHS

Tiny Arora and Judy Bamford

The main aim of this project was to find out whether a home-based number project would have similar positive effects to those already obtained with home reading projects. The objective was to identify the main elements of home reading projects and to try and incorporate these into the design for a home number project. The elements hypothesized as important were:

(a) regular home-school liaison;
(b) regular, but short, parent/child sessions at home;
(c) loosely structured tasks;
(d) regular recording by parents;
(e) a contract for involvement over a limited period;
(f) a relaxed attitude towards the task(s) by parent/child/teacher.

We initially aimed at a target group of seven-year-olds, as this would be the age by which expectations as to a certain degree of numeracy would have been formed.

How the pilot project was set up

The staff at the pilot infant school we approached were very willing to co-operate in this venture, as they had already been considering ways in which to involve parents in the education of their children.

A small group of nine parents was invited to take part in the project. These were the parents of children who were in the top age-group (age range 6-7) and who were thought likely to benefit from help with number at home. The duration of the project was eight weeks, during which time the parents were asked to spend 10-20 minutes a day on the project.

At the beginning of the eight weeks a meeting was arranged at the school to discuss the aim of the project with the parents, to ask them if they were willing to participate and to brief them on their involvement. A further meeting was held after the eight weeks for feedback. Seven out of nine parents agreed to co-operate in the project. There were three girls and four boys.

Designing the home activities

One of the major differences between reading and number is that a request for parents to 'read' with their children is, although vague, not open to as many interpretations as a similar request to do 'maths' or 'number'. In the former instance, at its most simple level, participants know to vocalize print in a meaningful way. However, there is no such commonly held assumption in the latter case, mainly because of the much wider variety of skills involved. Does doing 'number' mean counting out loud? Counting objects? Experimenting with shapes, etc.?

Whilst the development of reading ability has attracted a wide range of theoretical models and forms the main focus of a number of current professional journals, mathematics has not yet achieved similar attention or status in the minds of educators and educational psychologists. A review of the most likely journals from 1976 onwards yielded only a handful of articles relating to the psychology of mathematics teaching in the infant years. Most of this literature concerns itself with either the early pre-school

development of numerical concepts based mainly on critiques of the Piagetian model (Piaget, 1952; cf. Gelman and Gallistel, 1978) or with practical ways of making mathematics learning at the secondary stage of education more enjoyable, experimental and effective with reference to Bruner's theory of problem solving (Bruner, 1966; cf. Rogers and Miller, 1984). Also, as Choat (1981) points out, there is often an emphasis on the rote acquisition of a sequence of basic skills, whilst little attention is paid to the psychological aspects of this achievement. The context is often overlooked in favour of the learning of set routines which allows little flexibility.

Choat argues that the linguistic aspect of learning mathematical concepts is of particular importance. Concept formation is aided greatly by the ability to use the related language, whilst the learning of new concepts is closely associated with the acquisition of new words which are meaningful. There is a risk for the teacher in using words in mathematics which are related to concepts which are not yet fully understood. Jones and Haylock (1985) suggest that children who have difficulties in understanding the ideas of number and number operations require specific help in linking the auditory inputs of mathematical language, the motor activities of manipulation of concrete materials and the visual inputs of symbols and mathematical pictures. The present authors' experiences similarly suggest that the appropriate and meaningful use of mathematical language is an essential part of the growth of children's mathematical knowledge and understanding. This led to the decision that the extension of mathematical language for description and comments on the home activities would be the major focus of the project.

We knew that we wanted the activities to be enjoyable and we had determined to use the 'Paired Reading' format of involving the parents and children for 10 minutes daily. The actual activities had to encompass those elements of top infant number work which could be developed further at home and yet which were robust enough to be used in many different ways without the risk of interference with the classroom curriculum. In addition the activities had to be capable of being used at various levels of development and, most importantly, had to be fun!

What we decided to use were adaptations of games. We chose four basic games which we named ROWS, RODS, CARDS and TANGRAMS, each incorporating different aspects of number.

1. 'Tangrams' is an old Chinese puzzle which involves regular shapes which can be aligned to form a square (Shape, Position and Comparison).

2. 'Rods' involves a selection of coloured rods each with a regular relationship to each other, providing concrete number experience (Pattern, Size and Relationships).

3. 'Cards' was simply a pack of normal playing cards with ideas for activities extending their use (Counting, Sorting and Groups).

4. 'Rows' involved coloured counters which could be put into a frame to make both vertical and horizontal patterns and which could be extended with the use of a dice (Matching, Orientation and Discrimination).

Each game was accompanied by a list of activities to do with the material, list of words to be used and a record sheet. Parents were encouraged to use all the words each session and asked to note down which were actually used.

The parents kept each game for a fortnight, then came to the school to exchange it for another one and to discuss their findings with the child's teacher. They were asked to play the games six days a week for a minimum period of about ten minutes. They received a specially prepared booklet which contained a section detailing the various aspects of their involvement in the project and which also provided general information on activities in and around the home which could teach a child number skills. This was aimed at increasing general awareness of the opportunities for such activities.

What the parents and children thought of the pilot project

Information about the parents' views was obtained through the meetings, through the teachers, by means of an evaluative questionnaire completed at the end of the eight weeks and through a follow-up questionnaire six months later. All parents were able to continue with the daily session most of the time throughout the eight weeks. They also kept the records as suggested. The majority found it easy to participate in the project and the instructions easy to follow. Except for one parent, there were also no difficulties in using the words as prescribed on the cards. In all cases, their children would sometimes remind the parents when they forgot about the daily session.

The time spent by the parents and children on the activities was on average about 15 minutes, but some parents regularly spent as much as 30-45 minutes a day. There was no evidence of a tail-off effect in the majority of families. Most parents, though, admitted to having been bored sometimes or their children having been bored. This appeared to be related to the specific activity rather than to the length of time they had spent on the project. The activities that were preferred most and on which more time was spent on average were 'Rows' and 'Cards'. Both of these activities are more like a game involving some competition and they were more clearly recognisable to the parents as number games. The other two activities were criticised mainly in terms of their being too difficult or too inflexible. Some parents had also added their own number games, although this was not as frequent as we had hoped.

Most parents said they would probably carry on doing number games with their children, but not every day. They felt that the project could be improved by providing more interesting number games. They mentioned specifically board games, and card games and other counting games as possibilities. Most felt that their children had enjoyed taking part and had benefited from the project. Except for one parent who found it difficult to do the project and frequently became bored, all parents said they would probably recommend the project to other parents.

Six months later, five out of seven parents returned the follow-up questionnaire. These suggested that they were all continuing to play number games with their children at least once a week, with two parents doing this three to four times a week. Their children asked them from time to time to do number games and most children were reported as having become more interested in number since the project.

What the teachers thought of the pilot project

We asked the teachers to complete a number checklist and an evaluation sheet on the children in the project. We also had various discussions with the teaching staff throughout the project.

The class teacher did not find it difficult to arrange staggered fortnightly meetings with the parents for a brief discussion and an exchange of games. In six of the pupils positive changes were noted in classwork, whilst some had also improved in their behaviour or in their relationship with their teacher. It should, of course, be pointed out that these changes could not be definitely attributed to the project, as there are many factors which could have led to such changes. The staff felt, though, that the children benefited from individual assistance, even if it was not obvious at first, and that the project improved the children's attitude and motivation.

Another reason for welcoming the help given to the children was that it had not been possible to provide all the individual tuition which they thought desirable for their pupils and the project allowed some assistance with this. The involvement with parents was thought to be particularly beneficial. One question raised was whether the project should have continued for a longer period of time. Generally, the teaching staff had enjoyed taking part in the project and may consider similar ways of involving parents in the future.

Further Projects

Subsequent to the pilot project, a further four experimental projects, two with infant reception children and two with first-year juniors, were operated. The experiences of these projects and the reactions of parents, teachers and children suggest that similar positive effects to those already outlined with home reading can be achieved with maths through this approach.

Each of the projects followed basically the same format as the pilot in that (i) an initial meeting with the head teacher and members of staff determined the length of the project (six or eight weeks) and the group of children to be involved; (ii) parents were invited to an initial meeting held at school where the project was described both at the meeting and in a prepared booklet which the parents were given; (iii) following the meeting a game was chosen to take home, each game having a record card to detail time spent (10-15 minutes on six days) and a list of words to use when playing the games; (iv) parents visited the school to exchange the games with their children each week; (v) the parents were invited to a further meeting at school at the end of the project to discuss their experiences, and to complete individual questionnaires. They were given a booklet of maths games to take home.

Development of the project

The need to extend the number and variety of games resulted in an increased bank of suitable games being collected. Initially this was based on suggestions from parents involved in the pilot project, from colleagues in the Maths Advisory Team, from Professor Skemp (a leading authority in mathematical games), and from catalogues and publishers who were prepared to donate possible games. Eventually over 40 different games were accumulated. It was felt that ideally games should meet the following criteria:

* be enjoyable;
* allow equal competition or co-operation between child and parent;
* be easy to understand;
* be flexible and allow extension;
* encourage discussion;
* be robust - both physically and in minimizing a didactic approach;

* not look like 'school work';
* be attractive;
* be well packaged and easily kept together;
* be inexpensive.

The criterion of competition or co-operation proved an important one. Some mathematical games are solely skills based and therefore put the child, as the one with lesser skills, at a disadvantage when playing with a parent. They might also tempt the parents to take on a "teaching" role, which was not one of the project aims. So the majority of games chosen can be won through luck only, but do require certain mathematical skills whilst playing. Other games pose mathematical problems which are novel to both child and parent and hence allow equal co-operation.

Following the initial pilot project each subsequent project has built on the experiences of the previous ones and attempted to explore or develop some aspect of the parent involvement or the evaluation.

The numbers of children involved have been:

Infant pilot project	6-7 years	9	2 teachers
Infant reception	4-5 years	28	9 - 2 teachers
			19 - 3 teachers
Junior first year	7-8 years	38	9 - 1 teacher
			29 - 4 teachers
		Total 75 Children	

With the second infant project all the parents for the new intake for that term were invited to take part in the project. Twelve of the 16 parents took up the offer. The children in the next term's intake were used as a control group to evaluate the project. The school was so pleased with the ease of managing the project and with the effects on the parents and the children that they instigated a further project with the next year's intake and intend to adopt the approach alongside 'Paired Reading' for all subsequent entrants.

Before the start of the junior school project a major effort was launched into further analysis of the games which would be needed and into the provision of a broader range of games. Professor Richard Skemp from Warwick University was invited to extend the discussion and various ways of funding the new games were explored.

The greatest difference between the infant and junior projects was the ease of joint involvement for parents and teachers in the exchange of games. In the infant school the parents were already visiting school to collect their children; with the junior school children the parents' only contact was through the record card. In the subsequent project this distancing was reduced by explicitly contracting for the parents to visit school weekly to exchange games with the children and for the teachers to be available to discuss aspects of the games where necessary. Subsequent evaluation proved this to be an important aspect of the project, as was the pre-project meeting without the children where the parents were given the opportunity to play and experiment with the games before involving the children.

Underlying concepts of project development

One aspect which has developed has been the greater emphasis on the involvement of parents, not only in the day-to-day running of the project but also in understanding the importance of attitude.

Initially the concepts underlying the games were on two levels: the first at the level of enjoyment in that we wanted a mathematical activity to be recognised as being both enjoyable and achievable; the second at the level of validity in that the underlying mathematical concepts needed to clear from the activity and the importance of the language should be explicit. As the project developed it became clear that both these underlying concepts needed emphasising to the parents.

An important part of the setting up of the project was the initial meeting with the parents where the universal acceptance of mathematics being hard and "I'm no good at maths" could be explored. Mathematical concepts which are part of everyday life are often not recognised as being practical use of mathematical knowledge.

The importance of enjoyment and expectation of success was stressed alongside the equal importance of the use of the games to provide a meaningful activity for the children to determine the specific mathematical use of language. The pre-project meeting, where the parents were given the opportunity of playing with the games themselves, was used as a forum to stress this need for recognising that although the children may have grasped the everyday use of certain words, the slight change in the use of this language in a mathematical context was very important.

In order to accommodate this emphasis on language the games were grouped under the headings of early mathematical concepts which the children would meet in class:

Matching - Bonds	Shape	Pattern - Strategies
Order	Counting	Conservation

The six basic categories were chosen to accommodate a six-week project where the language could be focused onto key words. The games were assigned to particular categories specifically to reduce the number of words for the parents to focus on when playing games.

Obviously, as with mathematics itself, the games cover more than one concept and could be categorised in more than one area, but in order to offer the children as wide a range of language as possible the games were (somewhat arbitrarily) placed into one of the six early mathematical concept categories. (For the junior age range the additional concepts of Strategies and Bonds were used to extend Pattern and Matching).

The games were chosen because they were fun and for their face validity, i.e. they had obvious mathematical elements; but they were categorised by their most prominent concept. Well-known games with an element of luck and competition like Snakes and Ladders, Ludo, and card games were all easily accommodated under counting and matching, whilst other more recent commercial games were also included alongside those which had been locally devised. Pattern and relationships underpin all the concepts that were considered, since they form the basis of problem solving and as such permeate every aspect of mathematics. Developing skills in searching for pattern and relationships inevitably increases skill in mathematics.

Assessment

We were very conscious of the need to evaluate the projects and therefore to be able to assess quantitatively the extension of the children's mathematical knowledge before and after the intervention. Three types of instruments are available:

(a) norm-referenced tests;
(b) criterion-referenced tests;
(c) interview/observation schedules to use with individuals.

The first group of tests focus on finding out how many of a selection of mathematical tasks pupils can and cannot do, and in our experience were not nearly sensitive enough to be used as a diagnostic tool to determine individual progress in specific areas. The second in our experience were too time-consuming for the teachers and too insensitive to changes in how children learn mathematics. The third might be sufficiently illuminative. Testing on an individual level is of course inevitably time consuming:

> "any test which is given to a child can measure performance only on that part of what he has learned to which the test questions relate; even then, he may not always be able to demonstrate his knowledge under test conditions". (Cockroft Report, HMSO, 1982).

The Quest (1983) diagnostic tests were used as the basis of exploring early mathematical concepts. The children were tested individually during their second week in school with activities exploring their concepts of pattern, shape, sorting, conservation and order. The same tests were then repeated after eight weeks. Their progress has subsequently been compared with that of the new intake in the Spring term over a similar period of time. The latter thus acted as a comparison group. The children in the project group showed a marked improvement particularly in the areas of pattern, order and conservation. The children in the comparison group, although showing some improvement in their scores, scored significantly less well than the project children, particularly in these same areas. Pre-project scores for participant children were on average below those of comparison children, but post-project this situation was reversed.

Qualitative evaluation

Evaluation of each of the projects has involved not only the children but also the parents and the teachers.

Parents - through discussion at meetings <u>before</u> and <u>after</u> the project;
through informal discussion with teachers;
through the completion of record cards giving:
frequency of home sessions
length of home sessions
vocabulary used;
through questionnaire returns after the project.

Teachers - through discussion at meetings and on occasions during, before and after the project.

Pupils - through parents' observations and questionnaire comments;
through observations by teachers;
through tape-recorded discussions after the project.

Together these observations have given a more complete evaluation of the project. The parents' reactions were very positive and indicated that they had found it easy to take part in the project; the introduction of the language was no problem. They reported that the children were sufficiently keen to play the games that they would remind their parents if they forgot and only occasionally did either become bored with the activities. Many of the parents said that the games had given them ideas of other things to do at home and that they would continue to play games even after the project was finished.

Both the parents and the teachers felt that the children's confidence in maths had increased and both remarked upon the children's disappointment when the project ended. Unlike 'Paired Reading', there is no library towards which to direct the children. However, the parents had a wealth of ideas on how the project could be extended; one group suggested meeting together to make games that could then form the basis of a 'maths library'; others suggested a 'Swap Shop' of mathematical games. The best evaluative indicator has been the impetus for the project to continue.

Further Developments

Many more schools have now shown interest in developing parental involvement in Mathematics, including schools for children with learning difficulties. Nationally, a number of other similar schemes have developed, most notably IMPACT in the South of England. In Kirklees, the Paired Reading Project has extended its brief to all curricular areas and has been renamed The Paired Learning Project. Under this umbrella, more support services can be offered to schools wishing to develop projects. The authors have produced a manual for extra-district enquirers, and it is intended to produce an accompanying video tape. There has been very favourable publicity in the national press resulting in the distribution of well over 1000 manuals worldwide. The contents of The Infant Games Kits are being revised, and separate loan kits are being produced for Junior Schools. Subsequently, Games Kits for High Schools will be compiled suitable for peer as well as parent tutoring.

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The Project manual is available from Judy Bamford, price £3.50 incl. p & p.

NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS

INTERGENERATIONAL LITERACY PROJECTS

Why do literacy projects always have names that are so hard to read ? What it really means is raising the literacy of parent and child simultaneously by encouraging them to read together. Many low-literacy parents really get worried about their lack of skill only when their children go to school and begin to learn to read - the prospect of their children realising that **they** can read "better than mum" is pretty alarming. Paired Reading is ideal for this kind of project, but of course there would need to be some control over the readability of the material taken home by the children, so the parent is not presented with failure and children do not overlearn parental errors.

A number of projects in the U.S. are now developing this kind of work, and Federal Government has shown considerable interest. The First Lady, Barbara Bush, is well known for her special involvement in the area. There is also a major project in Colorado looking at the use of newspapers in Intergenerational Literacy, and the Newspaper Society in the U.K. is hoping to promote this also. For those wanting to know more, a useful recent resource is "Intergenerational Literacy Projects: what works ?", produced by Mary Franklin for the 1989 Annual Convention of the International Reading Association. This describes 16 major projects, including of course the Kirklees Paired Learning Project. Contact Mary at the Arkansas Department of Education, 4 State Capitol Mall, Little Rock, Arkansas 72201-1071, U.S.A.

NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS

PROJECT UNCLE

No, it's nothing to do with Illya Kuryakin, - it's an initiative promoted by the Institution of Electrical Engineers. The scheme involves retired engineers working directly with High school pupils, particularly in support of project work, which has assumed an increased importance in recent years. The Project has been in operation for nearly three years and now has 250 engineers working in schools spread over 13 regions in the U.K. (Hampshire, Cumbria, Cleveland, the North East, Northern Ireland, West & East Midlands, Surrey, Barnet, Essex, Dorset, Oxford and Inner London). The teachers involved think it's great! Further information from the Schools Liaison Service of the I.E.E., or your local S.A.T.R.O. centre. A paper on the project was presented to the Peer Tutoring Conference at Imperial College by Roger McCune, Executive Officer, Northern Ireland Science & Technology Regional Organisation, University of Ulster at Jordanstown, Shore Road, Newtownabbey, Co. Antrim, BT37 0QB.

PEER TEACHING IN HEALTH EDUCATION

Julie Redman

There has been a recent growth of interest in the use of peer teaching in schools in this country, marked by the launching of 'Smoking and Me' - a peer-led programme of smoking prevention for twelve to thirteen year olds. My own interest arose from a joint project of the Health Promotion Service with the Youth Service in North Warwickshire (Redman, 1987). From considering how AIDS education could best reach young people without them feeling "preached at", it was thought that education by their peers could "narrow the gap" and overcome the barriers between teachers and taught (Plamping, 1986).

The North Warwickshire project involved training groups of young people in two youth clubs. They gave tremendous commitment to "Training the Trainers" courses and as the project proceeded it became apparent that the benefits to the peer teachers were perhaps even more important than to those taught by their peers. This led to an interest in the peer tutoring tradition and, in particular, the work of Levan et al. (1981) and Bond (1982). The young people seemed to enjoy the learning experience and gain in confidence. This was particularly evident when they made a video and began to plan how they would educate others. After they had led an evening discussion in another youth club, one group said "We have done you out of a job". Although the input from the Health Promotion Unit was of limited duration (May-September), some of the young people continued their work as peer teachers in youth clubs and one girl (a fourth former) subsequently led a discussion in a fifth form leavers' course. This encouraging outcome indicated the potential of young people as peer teachers from an initial limited input. Following on from this work, the literature was scrutinised more carefully, to develop a conceptual framework for further applications in Health Education.

TRADITIONS OF PEER TEACHING

The term "peer teaching" is preferred (rather than peer eduation, peer tutoring, peer-led or peer counselling) because it seems to best describe the range of activities undertaken. These include one-to-one tutoring, talking to a class of seventy school students and leading a conference. Peer teaching can be used to refer to the concept of young people teaching young people or children in structured but varied learning situations that are initiated either by young people or by professionals.

Interest in peer teaching in health education has developed from an initial recognition that young people's peers may have a significant influence on their health related decisions (for example, the decision to smoke). Increasingly attention has moved from peer influence as a negative force to how peer influence can become a positive force in young people's learning. These moves have been backed by some educationalists who have also concerned themselves with the positive side of peer influence. Peer teaching in health education has two rather different principal traditions upon which it can draw: the peer tutoring tradition and psychosocial peer-led health education programmes. In addition there exists some experience of peer counselling and peer teaching programmes in the Third World.

Peer Tutoring

After the Bell and Lancaster system of the nineteenth century fell into disuse it took until the 1960's for peer tutoring to be advocated again, firstly in

the United States and later in this country. Peer tutoring has become a rich and varied tradition and a variety of educational aims and theories are able to meet in peer tutoring schemes.

Two principles of learning underlie peer tutoring:
"First, young children can learn certain tasks more effectively if they are taught by a person closer to their age (who understands their problems and viewpoint and can communicate at the same language level) than by an adult ... Second, an individual can learn through the process of teaching someone else. Learning through teaching can be an important way to understanding new material" (Cicirelli, 1976, p.99).

Peer tutoring programmes may not judge success by behavioural outcomes (for example, less students start smoking) but rather focus on understanding and attitudes (ie. cognitive and affective components of learning). Peer tutoring programmes in this country have been successfully implemented for disaffected youth (Bond, 1982); children with poor non-verbal communication (Hurford, 1980); children with reading difficulties (Winter, 1986); and for slow learning pupils (Murfitt and Thomas, 1983).

In health education, the only programme that has received national recognition is the Children's Health Club initiated in West Lambeth in 1977. This was a weekly club meeting after school. After a year some of the club members began to teach other children. "They used quizzes, questionnaires, posters, songs, discussions and demonstrations to teach others about teeth, the five senses, foetal development and keep fit, in a variety of settings including the Ark Youth Club, a nursery school, an infant school, a junior school, a local adventure playground and a summer playscheme" (Levane et al., 1981, p.3).

Psychosocial Peer-led Programmes

These have mainly developed in the United States in the late 1970's and the 1980's. The main proponents of the psychosocial peer-led programmes are Evans (1976), MacAlister et al. (1979, 1980), Botvin (1984) and Arkin et al. (1981). They see this approach as a response to the failure of health education to achieve behavioural objectives. They draw on social learning theory which suggests that use of an attractive role model with whom people can associate is critical in social learning situations. They also draw on social inoculation theory which suggests that a person's resistance to social pressure, eg to start to smoke, would be greater if the person had been 'inoculated' or developed arguments in advance with which to counter such pressure. Thus peer teaching is advocated because the peer can act as the role model, and role play is used for teaching young people skills for resisting offers of cigarettes or drugs.

The success of this method has invariably been judged in behavioural terms - the outcomes for "peer-taught". The psychosocial peer-led programmes do not seem to have considered the benefits for the peer-leaders. They are generally highly structured programmes initiated by teachers and using peer-leaders in an ancillary role. "Smoking and Me" (Gray 1987) is based on one such programme, the Minnesota Smoking Prevention Programme. The evaluation, however, seems to suggest that in the move across the Atlantic the behavioural outcome has been played down and the cognitive and affective components emphasised. There seems to be a greater concern that the programme made the children think and developed their confidence. In addition, the beneficial effect of the project on group leaders is drawn out by both teachers and children.

Peer Counselling

Some very interesting work has evolved in the area of peer counselling. For example, in Los Angeles Family Planning Clinics have used teenage peer counsellors and found they were more effective in establishing contact with hard-to-reach, high risk teenagers (Kar et al. 1986). Peer counselling has also been advocated in schools to promote the mental health of both counsellor and counselled (Hamburg and Varenhorst, 1977).

Third World Initiatives

The World Health Organisation have backed Child-to-Child, a health education programme where children help each other and their communities. Children's potential as health educators has been realised for a range of topics, e.g. our neighbourhood, accidents, diarrhoea and playing with younger children (Aarons and Hawes, 1979).

There are other projects that use a peer teaching component. For example, in Zambia, secondary school children have formed AIDS education clubs where student members organise their own activities, such as producing newsletters and organising rallies and public talks.

THE CURRENT STUDY

The study sought to investigate the potential of young people as educators in schools. Four case studies of peer teaching programmes were undertaken and a qualitative research method was chosen to explore the participants' own perception of the learning process. The major focus of the research was the perceptions held by the peer teachers of the work they were undertaking. The study considered the relationship between peer teacher and peer taught and sought to evaluate the benefits for them. It showed the peer taught gained because the peer teachers were seen more as facilitators to learning than as authority figures; this could enhance learning. The peer teachers also learnt by teaching and could additionally gain in self-esteem and social awareness and responsibility. It was concluded that peer teaching furthers many of the goals of health education, for example, enhancing self esteem, empowering individuals and even communities. Therefore it is a technique which deserves more widespread use in health education and promotion.

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PEER TUTORING HANDWRITING AND SPELLING IN A COMPREHENSIVE SCHOOL

Pat Peaker and Joyce Garnett

Once pupils have transferred to a large secondary school, it is more problematic for specific daily help to be given and monitored in areas of difficulty such as handwriting and spelling. The close contact with the primary class teacher has gone and children meet a bewilderingly large number of subject specialists.

In the local authority where this study was located, children's special educational needs are rightly regarded as being the responsibility of the school. However, the Special Educational Needs Support Service does provide additional help to assist schools in fulfilling their obligations to these children, as set out in Section 2 of the 1981 Education Act. The Support Service's response is essentially flexible and its role is negotiated termly, along with that of the educational psychologist and education welfare officer, at planning meetings.

The Target Group

Some eighteen months ago, three pupils were identified in a particular comprehensive school who were experiencing great difficulty with handwriting. The Support Service proposed that the daily help and monitoring which would be required could be effected by sixth form volunteers acting as tutors. It was decided that the Datapac Handwriting Programme, which involves daily tutoring sessions, would be used (Ackerman et al., 1982).

The Tutors

This school enters candidates for the J.M.B. 'A' level English Language examination. Volunteers were therefore sought from lower sixth form students studying this course. It seemed to be an appropriate group to approach, since looking at the way children use language is part of the syllabus and we believed they would appreciate the interaction with these young pupils.

The three volunteers were initially taught how to use the Datapac programme by the Head of the Support Service. It was stressed that they were committing themselves to a short daily involvement with their tutees, normally five to ten minutes at break time. They were provided with a booklet which described each aspect of the programme. They learned, through role play, the three elements of the daily session: testing, teaching, recording. Readers familiar with Datapac will know that testing comes first and takes a couple of minutes. The recording takes only a few seconds.

Tutors and tutees enjoyed the sessions; this was clearly demonstrated by their punctuality and regularity at the daily break-time sessions over the ten-week period. The tutors followed the Datapac guidelines and involved, as is suggested, the pupils as much as possible in plotting the scores. Like good teachers, they remembered to praise their pupils' progress!

Developments

The link between handwriting and spelling has been discussed by Margaret Peters and Charles Cripps (Peters and Cripps, 1983). They emphasise that spelling is a visual-motor activity and efficient spelling habits depend on

this, in addition to knowledge of the likely combinations of letter strings occurring in written English. As the children in the group had poor spelling strategies, it was decided at the end of the ten-week period to foster the link between handwriting and spelling. This served also to maintain the motivation of the tutees.

It was at this point that additional interest was generated among the tutors. Other sixth formers volunteered their services and since there were many younger pupils with spelling problems, the tutoring group was enlarged.

Pupils and tutors were taught the LOOK LEARN COVER WRITE CHECK strategy for mastering spelling advocated by Margaret Peters (Peters, 1967). This method is particularly useful for children with learning difficulties because they forget so easily what they have been taught. It provides a regular opportunity for overlearning and the chance to practise the spellings with the active participation of the sixth formers in the teaching process. When pupils make only slow progress it is easy to overlook their small achievements. The records which the pupil and tutor keep are easy to maintain and readily interpreted so that progress can be seen. Appendix 1 shows the spelling mastery record sheet which is used, devised by Rea Reason, Senior Psychologist in Oldham and tutor for post-experience professional training of psychologists at Manchester University.

The pupils can choose mis-spelt words from their own free writing which they want to learn to spell, or words may be taken from high-frequency keywords (McNally and Murray, 1962). They learn their words at home and each break-time they meet with the sixth formers to be tested, to enter scores on the recording sheet and to reinforce the strategy. Each child has a personal folder with record sheet. The special needs teacher supervises the organisation of the sixth formers and sees that every child arrives. The procedure for filling in the record sheet is as follows:-

1) The pupil shades in one of the 'checking' squares each time he or she scores 100% on the week's set of words.

2) The criterion for mastery is to score 100% on three separate days.

3) The pupil can then shade the mastery square, the 'comments' square can be dated and a comment made. Alternatively, the teacher overseeing the group may use this for his or her remarks as appropriate.

4) After four weeks there is an opportunity for a mastery check.

We are finding that when the pupils carry out the daily routines carefully they begin to make progress and they can see that progress recorded. The method is helping them to become independent learners more quickly. The busy atmosphere at break-times in the classroom of the special needs co-ordinator is evidence of the enthusiasm which has been generated by the peer tutoring scheme. The following are some comments from the sixth formers.

"Helping the children with spelling starts and strengthens relationships with other pupils who are younger than myself. Also helping a pupil to gain full marks in a test gives me a sense of achievement. I sit in extra lessons and help with a full class - this will be of benefit to me in the future as I am considering the possibility of teaching junior age children. I greatly enjoy it" (Robert).

"It is a good experience even though it's only a few minutes everyday. It's good to know that you are helping them and it's nice when they are grateful and want to learn. It also helps me for my 'A' level English course with linguistics. I really enjoy it. It's good practice because I want to be a teacher" (Vicky).

"I enjoy helping Joanne and Christopher with their spelling. I find it very rewarding and I feel that my break-time is well spent. I am not interested in teaching as a career but I find the spelling programme a valuable experience. I wish now that I had helped in the special needs department last year when I was in the Lower Sixth" (Liz).

Evaluation

The programme offers an additional facility for the English department, reducing the need for specialist withdrawal lessons. It has widened the provision available for those who have problems with spelling. When parents voice concern about their child's spelling, pastoral staff refer pupils to the special needs co-ordinator and something can be done immediately via the tutoring arrangements. At the termly planning meetings the progress of these children is monitored.

Further developments

At the induction week for prospective Sixth Formers the special needs co-ordinator talks about the work which is going on and pupils are asked to think about volunteering in the autumn term. When term begins they are reminded of the peer tutoring programme. Next academic year it is hoped a student volunteer will talk to prospective sixth formers about the work they do.

This year all students doing 'A' level English Language courses are positively encouraged to take part. Some are doing work on certain aspects of the tutoring scheme and one sixth former is preparing coursework on dyslexia as a result of her involvement. There are presently thirty volunteers, fourteen being on the 'A' level English Language course.

The peer tutoring scheme has engendered much interest in the school and some of the sixth formers have offered to spend time in the English classes of their tutees. The Maths department has voiced an interest in encouraging sixth formers to work with children who have problems. The Special Educational Needs Support Service already has experience of promoting a scheme in the primary sector for parents and children enjoying maths and it may well be that in this particular school sixth formers can take on the tutoring role to encourage enjoyment of number work.

Conclusion

The project appears to be very successful in terms of motivating children to take on responsibility for their learning. The sixth formers are well-briefed, supervised by a teacher and they are volunteers. It needs to be emphasised that the tutors are not teaching, they are helping children with work which has been planned by the teacher and which he or she knows is appropriate for them. So the content is controlled by professionals. Those who might raise a voice of criticism that the role of the teacher is being diminished need only spend break-time with the group to find that peer tutoring involves much work on the teacher's part to maintain the success of all concerned.

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THE Peer TUTORING HANDBOOK

KEITH TOPPING

Peer tutoring is a subject of growing current interest. It involves able pupils working with pupils of lesser ability in a carefully organised way, helping each other rather than being directed exclusively by the teacher.

This book is written directly for grass roots teachers, and others with a practical interest in promoting co-operative learning. It includes a step-by-step guide to organising peer tutoring, using a minimum of time, effort and special materials. Following this, success should be guaranteed!

Research on the extraordinary effectiveness of peer tutoring is reviewed, including evidence of social and academic gains for both tutor and tutee. Also covered are the history of tutoring, examples of projects, and methods of evaluation. Further relevant resources are listed.

Peer tutoring in reading is the most popular use of the technique, but it has also been applied to a very wide range of curriculum areas, ages and situations. Those working where professional teachers are scarce will find it invaluable.

This book brings peer tutoring into the realm of practice of every teacher. The emphasis is on simple but well-organised projects which operate within existing social frameworks and are intrinsically enjoyable for all concerned. Such initiatives are highly cost-effective, self-sustaining, and encourage independent and purposeful learning.

CONTENTS 1. Introduction 2. The History of Tutoring 3. Examples and First Considerations 4. Organising a Project 5. Structured Planning Guide 6. Effectiveness Research 7. Evaluating a Project Appendices References Index

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Appendix 1

SPELLING PROGRAMME RECORD SHEET

WEEK	OBJECTIVES	DATE COMMENCED	CHECKED CRITERION 100 X 3			MASTERED	COMMENTS
1							
2							
3							
4							
MASTER CHECK (1) 5		CRIT 80%	DATE _____				
MASTER CHECK (2) 10	_____	CRIT 80%	DATE _____				
	Revise the spelling from these 4 weeks simultaneously						
	Revise the spelling from these 4 weeks simultaneously						
MASTER CHECK (3) 13	_____	CRIT 80%	DATE _____				

CUED SPELLING AND PAIRED READING IN ADULT BASIC EDUCATION IN RYEDALE

John Scoble

Paired Reading and Cued Spelling are used as important strategies in the attack on low literacy in North Yorkshire's Ryedale area. For reports of the pilot work, see Scoble (1988) and Scoble et al. (1988). Of course, the individual needs of the student are paramount, and specially tailored learning packages and programmes to suit each client are developed in "B.E.A.R." - Basic Education for Adults in Ryedale. I hate acronyms, but ours has a cuddlier feel to it than most.

P.R. and C.S. have been described as systems useful for "moving learning out of classes and away from dependence on teachers, and towards self-help and community help from non-professionals, deploying strategies which are **always** available for **swift** use everywhere a need arises". However, this is not my principal concern. Like all sensible practitioners, I use whichever strategy or approach seems likely to best suit the circumstances of the individual student. B.E.A.R. (!) can offer help once a week at a centre, or once or twice a week in a student's home from a volunteer worker, or P.R. and/or C.S. in a student's home or any other situation in which the helper spontaneously and regularly comes into contact with the student, or (as in quite a few cases) it can offer any combination of the above strategies. Flexibility is the name of the game in Adult Basic Education.

It is a fact that many students simply will <u>not</u> come into a centre, for reasons which are too numerous to mention (fear, failure associated with educational institutions, etc.). When you consider that the current estimate in the U.K. of adults needing help with basic skills is something like 6 million people, and that existing provision is only reaching 110,000 students, there must be something wrong.

The annual report from the Adult Literacy and Basic Skills Unit for 1987-88 (A.L.B.S.U., 1989) states that: "Of the 109,869 students receiving tuition in November 1987, just under 5% were receiving home tuition, just over 12% were being taught individually by volunteers in centres and the remaining 83% were learning in small groups. Thus, the shift towards group tuition, which has marked recent years, continued in 1987-88".

Doubtless the 83% were in small groups, but whether all of them were **learning** is much more debatable. A.L.B.S.U.'s own research on this is not wholly encouraging, despite its highly subjective nature. And in any event, the proportion of adults with basic skills problems who do **not** present themselves at classes or centres is enormous - 5,890,131 (or 98.17%) in the U.K., if my calculator is correct.

I am in favour of the "little and often" approach. For many students in classes, the ability to retain material from one week's "lesson" to the next is ill-developed, and class-based tuition is not effective without the support of frequent and regular intervening practice. Those of us who can still remember learning to drive will empathise with this - especially on reflecting that some A.B.E. students are on their 500th "test".

In Ryedale, over the last 12 months, 14 students have used C.S., many have used P.R., and several have used both. All new students asking for help are offered these techniques, and once they are explained, many students prefer them to the traditional once-a-week class at the centre. Some students prefer to do both. It is not an either/or situation; it is much more flexible than that - we tailor what we offer to the needs of the student.

I have found that P.R. is fairly easy to set up, provided that the Pair manage to overcome any initial embarassment - particularly prevalent in husband and wife Pairs ! I make a point of overseeing their technique for at least the first two weeks, to ensure they have "got it right". I usually suggest a 6 week "crash course" of doing P.R. five times a week, then "insist" on a scaling down to three times a week (although some Pairs still do more) for a further six weeks, then reducing to twice a week for the indefinite future. Most pairs see the value of the technique and try to practise it on a regular basis, but it is never as frequent subsequently as during the initial six week's burst. Pairs vary, but the most usual "combo" is the student husband being tutored by his wife. We have had a father being tutored by his son, and a mother tutoring her son, as well as various friends acting as tutors.

Cued Spelling is still in its infancy, relatively speaking. On the whole it proves fairly easy to deliver. If a student comes for help I usually establish P.R. first, and then introduce C.S. as soon as it is practically possible. Big Dave and his wife Rosie (tutor), who feature in the Cued Spelling training video, are still going strong and are star exponents of the technique ! Both are highly motivated. Rosie is currently studying to do her C.P.C., an R.S.A. exam, to qualify as a transport manager - so the Pair can run their own haulage business.

Much as with Paired Reading, students who start C.S. at a higher initial level of spelling ability tend to progress at a more rapid rate. The lower level starters often need more professional input and follow-up. Some have difficulty with identifying suitable Cues - "how to split up the word". They often try to use phonics, familiar to them from school days although clearly not then having proved successful, and then get muddled and begin to panic, saying they "can't do it". Confidence is the key to progress. Some students use an idiosyncratic combination of phonic Cues and alphabetic letter names. Thus, for example , one student remembered "bright" by the phonic sounds of "br" and the alphabetic names of "ight". The C.S. rule is that the student works out the way that is memorable to them, however zany it seems to an onlooker. Breaking words into syllables or other chunks is another approach, although again the "syllables" chosen might not look quite right to Mr. Baker. Few students devise more complex mnemonics, such as acronyms, presumably because they require a lot more thought and effort - although schoolchildren doing C.S. often like to do this.

After a while, some students begin to experience difficulty in thinking up words they need to be able to spell. To start with, it is easy to think of words they need naturalistically, but after a while they tend to "run dry". The main reason for this is, of course, that the students do not actually write much, so their needs are small currently. In fact, they are caught in the vicious circle of restricted literacy - because you're no good at writing, you avoid it, so you don't get the practice necessary to make you better at it, and because you aren't getting any better at it, you haven't the will or the confidence to have a try at words which are outside the very

narrow band of those which are everyday requirements. In short, students are lacking in "reasons to write". So I tend to suggest that they try to keep a brief 'diary' on everyday events, perhaps what has happened at work or on a favourite soap opera on television, and then do C.S. on the words that are spelled wrongly in the day's "news".

Occasionally problems have occurred because I have not made the instructions clear, or have not followed up the Pair early enough to make sure that their technique is "as per book". Lack of time is obviously a major factor in the latter. For example, there was one Pair who did not "carry over" words that were incorrectly spelled at Speed Review to subsequent sessions. Another Pair developed the habit of missing out Step 6 in the "Ten Steps" (tutor demonstration), because they felt embarrassed about it. I have since refined my explanation to, and training of, new Pairs, so these faults no longer tend to appear. Generally, all Pairs prefer to follow the full Ten Steps of the technique rather than use the "Leapfrog" option - they say "it helps you remember better".

Some of my students are very weak in phonic skills. They may not have been well taught at school. So, in addition to P.R. and C.S., I usually also train the non-professional tutors in the systematic use of phonics. These tutors can then reinforce the learning every day for 10 - 15 minutes, if the urge takes them - unlike the traditional once a week at class. This delivery of phonic instruction in a purposeful context by community-based non-professionals is yet another optional element in the B.E.A.R. menu.

As with many things in life, the major factor governing success or failure is stickability. Perhaps more strikingly in A.B.E. than in other aspects of life, this varies greatly from student to student. P.R. and C.S. offer positive strategies which enable well-motivated students to make rapid gains in a short period of time. Other less motivated students do make progress, and certainly more than if they were only attending a weekly class, but not as much as the really keen ones.

In Ryedale, a very rural district, some of the students live so far out in the wilds that attending a class would in any event be out of the question. Many students do not possess any form of private transport. Matching students with nearby volunteer workers also becomes very difficult with those who live in isolated spots. In these cases, P.R. and C.S. mean that tutorial input is still possible. These techniques also have the advantage of preserving confidentiality - they literally "keep it in the family" - and this is greatly valued by particularly sensitive students.

Fascinating case studies abound in this area of work, and brief details of three students are appended below, together with a listing of current C.S. Pairs operating in the Ryedale area. To give you the flavour of what follows, consider one Pair who have recently started P.R. and C.S. The tutee had previously received A.B.E. help some 10 years ago, then opted out. Encouraged by his newly acquired wife, he presented himself again, seeking help. P.R. proved fairly straightforward, though I had great difficulty finding suitably interesting reading materials because of the student's very low achievement (despite P.R. suffering less from this problem than virtually all other approaches). Then C.S. began, and the student took five whole sessions (a week's work) to learn 2 words - Pickering and

Goslipgate (address) - repeatedly mis-spelling them. At the end of the week, however, he had got them ! It was a slow process requiring much patience and support from the tutor, his new wife. But how long would it have taken him to learn to spell his address correctly if only attending a class once a week ?

CUED SPELLING USERS IN A.B.E. IN RYEDALE

Student	Tutor	Student	Tutor
Patricia	friend	Peter*	wife
Liz	husband	Dave*	wife
Andy	wife	Dawn*	husband
Lenny	friend	Andy	wife
Paul	wife	John	mum
Paul	mum	George	wife
Raymond	son	Robert	mum

* = long term users of C.S. (P.R. used widely by these and others)

DAWN

Dawn used to be a "traveller". She never attended school until she was 14 years old. On her first day at school, when she could not read the words on the blackboard when asked by the teacher, she was sent to the headmaster for being insolent. What a start ! Dawn's C.S. tutor is her husband. Now she has started to write her memoirs.

Week 1 colour birthday sincerely (Speed Review score 3/3)
Tuesday January April Scarborough Slingsby (5/5)
aviation (and previous words repeated) (Mastery Review 7/9)

Week 2 ornament television Barrowcliffe (3/3)
Kirkbymoorside seven eleven (3/3)
fragile twenty pounds (3/3)
pence thirty hundred (3/3)
flour sausages fifty (3/3) (Mastery Review 12/15)
the 3 error words at Mastery Review repeated next day - 3/3

Week 3 Madison seventy Michael (3/3)
orange potatoes lemonade (3/3)
Friday February (2/2)
Charmaine Wednesday Saturday (2/3)
mistakes spend cover (3/3)
reply empty window (3/3) (Mastery Review 15/17)

Week 4 yellow + 2 error words from previous Mastery Review (3/3)
borrow please thank-you (3/3)
shopping Harland animal (3/3)
Dillys Mathew Joanne (3/3)
doorstep choice yours (3/3) (Mastery Review 15/15)

Week 5 weather remember laundry (3/3)
England Yorkshire British (2/3)
changing basket blend (3/3)
breach bless drop (3/3)
supposed husband work (2/3) (Mastery Review 13/15)

Week 6 picnic + 2 error words from previous Mastery Review (3/3)
have smoke tooth (3/3)
cupboard because please (3/3)
party legal water (3/3) (Mastery Review 12/12)

Week 7 school Michael (2/2)
then allowed enjoyed (3/3)
videos when sat (3/3)
anything special (3/3)
woke come tests (3/3)
their selves being (3/3) (Mastery Review 16/17)

Dawn and her husband commented that they had followed the scheme as planned, and it had certainly worked. There had been some problems with choosing words, and some difficulty in deciding on how to split them at times. In cases of disagreement, Dawn was always right !

ANDY

This student lives "out in the wilds" but nevertheless manages to attend class once a week. In addition, he wanted his wife to help him with Cued Spelling. Andy had particular difficulty finding words to spell, and resolved this by keeping a diary largely reporting events on television. A typical day's diary is reproduced below.

"The girl who has gone to stay with Helen Danials is a bad influance on Lucy. Mrs. Mangle has told Mike that he can stay at her house all the time if he whants to. Helen got Charlene and Scott together to talk about their trouble but they end up quarling with each other. Mrs. Mangle fell to slepp and wen she woke up Mike's dog was lying on the sette with her."

Week 9 Daniels influence wants quarrelling sleep when (6/6)
sister offered divorcing (3/3)
younger Greg Gail (3/3)
realise impress (2/2)
(Mastery Review 14/14 - carried out 2 days later)

PETER

This student was involved in the original pilot experiment. His early progress was reported in Scoble (1988) and he features in the C.S. training video. In splitting words to find Cues, Peter identifies some single letters in isolation, but mostly divides the word into manageable chunks of information containing a few letters. Often these involve words within words, such as in/sid/e, din/ing, al/lot/ment, ma/chin/e, and so on.

Peter has now been using C.S. for well over a year. He now almost always scores 100% on Speed Review, but weekly Mastery Review scores are more variable - 8/8, 9/10, 20/20, 7/10, etc. However, Peter and his tutor (wife) conduct Mega-Mastery Reviews at intervals, covering the words from 3 weeks worth of C.S. done some time in the past. Scores on these are most encouraging - 21/24, 28/32, 35/38, for example - virtually a 90% success rate in a very demanding test situation. The first time Peter achieved this he was astonished at his own capabilities, but he has sustained this level of success now for a very long time.

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Training Family and Friends as Adult Literacy Tutors
Journal of Reading (I.R.A.) 31, 5, 410-17

THE RYEDALE ADULT LITERACY PAIRED READING TRAINING PACK

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PAIRED LEARNING PROJECT

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CROSS-AGE TUTORING IN SCIENCE

Keith Miller

Abstract

The cross-age tutoring was carried out at Longbenton Community High School, an urban comprehensive school in North Tyneside. Fourth year students aged fifteen were used to tutor first year pupils aged twelve. The tutors were studying for the GCSE Physics examination and the tutees were following a lower school science course.

The aim of the research was to find out how attitudes to tutoring varied over a period of six weeks. Marks from pre-test, post-test and follow-up (retention) tests were compared with those from a control group, who were taught using more conventional styles of teaching. The attitude of the tutors to tutoring was indicated by a questionnaire given after each tutoring session. Ten statements were given about attitudes to tutoring, and the tutors had to mark whether they agreed strongly, agreed, were undecided, disagreed or strongly disagreed with each statement. Space was available for tutors to comment more extensively as to what they liked or disliked about the tutoring session on that day.

The scores showed that tutoring had positive effects on the attitudes of those who tutored, with the most positive responses being during weeks three and four. This evidence was backed up by more extensive written comments from the tutors. Most tutors wished to do some more tutoring in the future. Tutoring is now included in the GCSE Physics scheme of work.

Procedure

The fourth year tutors had Physics for a double lesson, periods 5 and 6 on Friday afternoon. The first year class to be tutored had a lesson timetabled for period 6 on the same afternoon. A single period lasted for 50 minutes, although with travelling time between rooms this could be reduced by about five minutes. The tutoring programme was to last half a term, which fitted in well with the duration of the module on 'Light' for both year groups.

Physics was timetabled in two of the six option blocks in the school. There were two teaching groups in option one and one teaching group in option six. These Physics classes were taught in mixed ability classes and the ability of the students in the two option groups was similar. The option six Physics class were chosen to act as tutors and the classes in option one were to be the control group.

At first the intention was to train the tutors for about 15 minutes at the end of the double lesson after a tutoring session. The programme was:

Period 5	'Normal' lesson
Period 6	Tutoring for first 30 minutes then the tutors were to complete an attitude questionnaire for 5 minutes. There then was training in preparation for the following week's tutoring session for the last 15 minutes.

After following this programme for the first week it was found that the tutoring actually took much longer than first envisaged. The only time left at the end of the first tutoring period was the five minutes which were used to complete the attitude questionnaire. The feedback obtained from this questionnaire indicated that tutors wanted more training and an opportunity to go through the work on the same day as they tutored. The modified programme for Friday afternoons therefore became:

Period 5 — Training for the tutoring session. This involved the tutors actually carrying out the experiment to be done with the tutees in the next lesson. A worksheet was produced to guide the tutors. This enabled the tutors to have 'hands on' experience with the equipment and gave them the opportunity to sort out any problems they may have had with the experiment.

Period 6 — Five minutes' introduction in order to allow the first year class to arrive. Tutoring took place for about 30 minutes. The last five to ten minutes were spent de-briefing and completing the attitude questionnaire.

Project Process

Week 1

Even though the tutors and tutees were matched beforehand and it had been decided who was going into which of the two labs, the sorting out took about ten to fifteen minutes, longer than first envisaged. A lot of the first tutoring session was taken up with the tutors and tutees getting to know each other and there was an atmosphere of nervous excitement. Instead of tutors working directly in pairs with tutees, they preferred to have two tutors, usually friends, tutoring two or three tutees. This seemed to give the tutors more confidence and allowed a greater degree of discussion in a larger group.

Week 2

It was much easier to sort out the groups this week since the tutors and tutees knew with whom they were paired. The first year group were usually very lively and lacked concentration when taught as a complete class. This was particularly so during the last lesson on a Friday afternoon. The transformation in the atmosphere within the classrooms this week was remarkable, in that within the small groups the individuals were interacting well and there was a positive 'buzz' of discussion about the experiment being carried out. The tutors and tutees were both interested in what was going on and the initial nervousness and mistrust from the previous week seemed to have disappeared.

Weeks 3 and 4

The tutoring continued much as it had done during the second week. The small groups worked hard and the atmosphere in the laboratories consisted of motivated students creating a good working atmosphere. The tutors made sure that the tutees had work completed in their books and were available to help with problems and give immediate feedback to the first year pupils when there was a lack of understanding.

Week 5

The initial enthusiasm for the tutoring was beginning to show signs of waning. Some of the tutors, particularly the most able in the class, were concerned that they were not being "taught Physics" and would not complete the GCSE syllabus. Some of the tutees had become too familiar with the tutors and the novelty of tutoring was beginning to wear off. However, atmosphere in the classroom was still positive and the first year group was far better behaved than had previously been the case when taught as a complete class.

Week 6

At the close of the session there was obvious disappointment in most of the tutees that the tutoring was finishing and in the final de-briefing of the tutors the general feeling was that it had been an enjoyable and profitable experience which they would like to repeat at some future date.

Results - Attainment Tests

Pre-tests, post-tests and retention tests were taken by both the tutors and the control students. The same test was given to each group so that a comparison of the results could be made. Great care was taken to introduce the pre-test as something which would not be used to assess the individuals in the class. Students were reassured that the results from the test would not be released to other students, although the marks were given to individuals if they stayed behind after the lesson was finished.

From pre- to post-test, the gradient of the tutoring group line is greater than the control group line (See Figure 1). This indicates that the tutors made a greater gain between the pre and post tests than the control group. The process of tutoring has therefore influenced the learning positively when compared with more traditional types of teaching. A strange effect occurred for the tutoring group between the post test and the retention test. It can be seen that the mean score increased after the post test. This may have been due to students remembering the questions from a previous time. Another alternative explanation may have been that the process of tutoring had enabled the students to spend more time thinking about the concepts and consequently improve in their understanding of the topic.

Attitude Questionnaire

In order to analyse the attitude of the tutoring group towards tutoring a questionnaire was given after each of the six tutoring sessions. The questionnaire was split into two main sections. The first part consisted of ten structured questions which required a statement to be answered using one of five responses which best matched the individual tutor's attitude. These were:

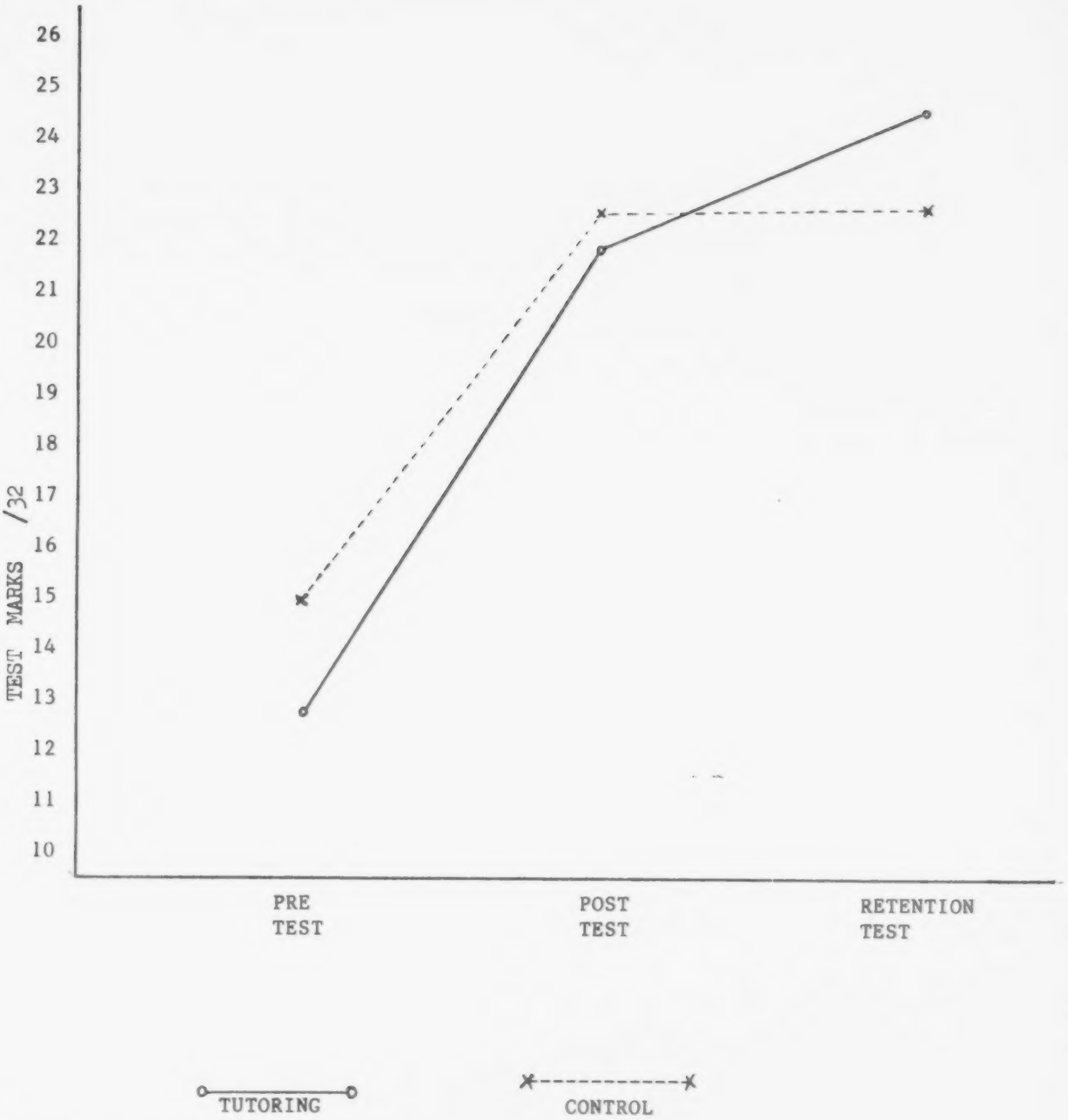
STRONGLY AGREE, AGREE, UNDECIDED, DISAGREE, STRONGLY DISAGREE

1 2 3 4 5

The number which most corresponded with the tutors feelings had to be circled.

Figure 1

GRAPH OF MEAN SCORES: PRE, POST AND RETENTION TESTS
FOR TUTORS AND CONTROL STUDENTS



The questions were:

1. I enjoyed teaching younger children
2. I would like to do more tutoring
3. Tutoring has made me think more about the subject
4. I feel nervous about tutoring
5. Tutoring has helped me understand the work
6. I look forward to Physics lessons on Friday
7. I would like more help before tutoring
8. Teaching is quite a difficult job to do
9. Teachers interfered too much during tutoring
10. I did well at tutoring.

The mean was taken for each of the answers for the first, third and fifth week and the results plotted on a graph.

1. I enjoyed teaching younger children

In the first session tutors were undecided about their enjoyment of tutoring. However, it improved in the third week, although there was slightly less enthusiasm by the time fifth session was completed.

2. I would like to do more tutoring

Tutors were not certain whether they wanted to do any more tutoring in the first week. They wanted to do more in the third and were only slightly in favour by the time the fifth week came along.

3. Tutoring has made me think more about the subject

It was felt that the tutors thought less about the subject in the first week although by the third week they were thinking about it slightly more. However by the fifth week the general feeling was that they had thought less about the subject.

4. I feel nervous about tutoring

This showed one of the most marked changes in attitude. During the first session most were nervous about the tutoring yet in the later weeks they were much more confident.

5. Tutoring has helped me understand the work

The trend was that the understanding of the work improved steadily as the weeks progressed.

6. I look forward to Physics lessons on Friday

This stayed exactly the same for all weeks.

7. I would like more help before tutoring

In the first week much more help was considered to be necessary. Most were happy with the training in the latter weeks.

8. Teaching is quite a difficult job to do

Most tutors felt teaching was a difficult job but in the last two sessions it had become a bit easier.

9. Teachers interfered too much during tutoring

Most pupils felt they were allowed to get on with tutoring without too much interference.

10. I did well at tutoring

Most pupils were very happy with the way they tutored in the third week but not so positive in the first and last sessions.

Conclusion

An evaluation of the school tutoring programme in physics shows that tutoring had positive effects on the academic performance and attitudes of those who tutored. Tutors outperformed control students on tests and also developed more positive attitudes towards the subject of Physics. Participation in the tutoring programme was found to have little long term effect on participants' self esteem. The reply to 'I did well at tutoring' remained on the same point of the scale in the first and last week. The replies to 'I would like to do more tutoring' and 'I enjoyed teaching younger children' were more positive in the third week of tutoring but tutors were less keen by the fifth week.

In the first week tutors did not think they had understood the work as well as if they had been taught using conventional methods. By the fifth week they thought that tutoring had helped them to understand the work better. From the comments gained from the tutors during the tutoring most enjoyed the experience and said that they would like to tutor again in the future. The things they particularly liked was 'teaching the children things they did not know'. The thing they disliked most was when the children 'did not do what they were told'.

Some of the more able pupils felt "it was boring", "I didn't learn anything", and "I felt as though it was a waste of time". For the majority of the students though, the experience of tutoring was a positive one. They clearly enjoyed the experience and it made a change from the usual style of lessons. Tutoring gave the students more responsibility to which they responded magnificently and approached the procedure with enthusiasm and interest.

The tutoring took place on the last lesson on a Friday afternoon, the second part of a double period which usually resulted in a reduced effort by the students for the last part of the lesson. The tutees were a particularly lively first year who tended to lose concentration very easily during this last lesson. The effect of tutoring in the laboratory was considerable. The atmosphere in the rooms was more conducive to learning. The small groups were engaged in active discussion about the topic and there was a positive 'buzz' of excitement in the laboratories. The teacher's role amounted to that of a 'consultant', who visited each group regularly so that any points could be clarified. By the fifth week, however, there was a slight diminishing of interest and a desire by the tutors to return to more traditional styles of teaching. Most tutors wished to do some more tutoring in the future.

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SAME AGE PEER TUTORING IN THE SECONDARY SCHOOL SCIENCE CURRICULUM

Mary Bland and Graham Harris

Abstract

The authors initially experimented with Same Age Peer Tutoring (SAPT) using members of the same class in order to discover its possible strengths as a teaching model and to assess its most likely use. Science was the choice of subject area because these lessons constituted both practical and theory based learning and were a combination of both structured teacher control and student directed exploration.

Field trials of our modified version of SAPT were then carried out to ascertain success rate and range of application in different types of class, ie well motivated and disenchanted students, different ages and stages in the school (first to sixth form) and a variety of science curriculum content.

Video filming of lessons aided our assessment, offering the valuable facility to scrutinise students' learning frame by frame. We were thus able to compare in detail contrasting classes, such as those teachers usually found difficult to manage and those composed of students who were keen to learn.

SAPT as an innovatory teaching model was then introduced through formal in-service training to the staff during Baker days. Its implementation across the curriculum was facilitated through informal training in various curriculum areas. Examples of SAPT lessons in maths, geography, and languages were published in an ideas booklet. The most significant feature of SAPT is the increase in students' learning performance. All students learn rapidly, with relative ease and clearly enjoy learning in this manner.

Introduction

British schools are presently struggling to assimilate the various and almost overwhelming changes recently wrought by a new examination system, new methods of assessment and pupil profiling and the onset of a National Curriculum, while also fighting the adverse effects of demographic change. Teachers are struggling to absorb, in many cases practically overnight and with insubstantial INSET, the requisite pedagogical implications. This is further exacerbated by the fact that these changes are taking place in a context of reduced material and human resources, affecting the morale and motivation of teachers at a time when schools are being closely scrutinised and appraised by parents, employers and society at large. The stressful impact on students of alterations in their learning environment and differing methodology, especially where one style may have previously prevailed, should not be underestimated.

The emerging trends in educational ideology towards a more student-centred approach, towards active learning in contrast to teacher-dominated didactic approaches, and towards the introduction of problem-solving techniques is reflected specifically in science teaching in the move away from a knowledge-based curriculum towards a balance between knowledge and processes. The National Curriculum makes such adjustments, radical though they may be for many teachers, mandatory.

A close look at one of the Science National Curriculum profile components, Exploration and Investigation (Science for ages 5 to 16, 1988), gives an idea of what is in store. Pupils' attainments will be assessed in terms of their ability to:-

make observations;

note patterns;

suggest hypotheses and explanations which can be tested; and

make inferences.

Similarly Attainment Target 18, Working in Groups, contains statements of attainment which have implications for classroom organisation and methodology. They also necessitate a development on the part of students of a variety of social skills. Consider the following statements of attainment. Pupils' attainment should be assessed in terms of their ability to:

offer ideas and take initiatives;

take on a different role for different tasks as determined by the group;

take an appropriate share of tasks;

show sensitivity to the needs and limitations of individuals within the group; and

accept help when offered and give help when needed.

While legislation is bound eventually to have considerable influence on shaping practice, there remains a distinct gap to be bridged before conventional teaching can move to the more inspirational and imaginative approaches required to achieve the targets mentioned.

The implicit demand to raise levels of performance entails continuous individualised assessment and recording of performance in accordance with criteria which necessitate a close and accurate knowledge of each student, as opposed to a rough idea of their general ability. An onus is placed on the teacher to help students learn for themselves and function independently, instead of placing heavy reliance on teacher-dictated answers. Furthermore, there is an expectation that teachers can and will counter the effects of socio-economic disadvantage upon students' learning.

The Teachers' Predicament

Whatever the formulation of curriculum objectives at national level, at the end of the day the curriculum only really exists when learning occurs in the classroom. Happily the paraphernalia of control has left a creative role for each school to develop its own local initiatives. Teacher dissatisfaction with top-down models of INSET has been long recognised. The importance, in ensuring successful curriculum change, of the direct participatory involvement of classroom teachers cannot be over estimated. No one presently known approach succeeds with all students or reaches all goals. Different types of learner require differing types of instruction.

Making inferences, reasoning logically and other such skills that constitute personal information processing and intellectual functioning are vital, but equally vital are organisational and social skills such as taking the initiative, effective listening, time management, etc., approached through self-awareness training, confidence-building and the development of personal capability. Working competently as a member of a group, power sharing, being sensitive to the needs of others and relating well to others can be developed through group investigation and problem solving, role-play and social simulation.

Until Warnock and the 1981 Education Act, learning difficulties were regarded very much as the students' problem rather than as a symptom of poor teaching or curriculum design. The schools' selection processes (banding, setting, etc.) frequently created a self-fulfilling prophecy and endorsed this perception. Availability of, and accessibility to, learning may be crucially influenced by methods of student allocation and associated lowering of teacher expectations. Not so long ago, still students sat silently scribbling were equated with "good discipline" and a "good teacher", irrespective of whether any "good learning" was taking place. Students' moving freely around the room with an accompanying hum of conversation, however purposeful, can prompt fear of loss of control and therefore loss of face in the heart of many teachers, who then champion the security of their well tried and tested ways.

Those with any experience of the management of change will appreciate that the views and actions of others can also constrain the range of possibilities. Teachers are governed by their emotions, attitudinal values and beliefs as much as any other members of the human race. Appealing solely to their rationale is foolhardy, since other strong influences guide their actions in practice. One of the major stumbling blocks to convincing dubious teachers of the merits of active learning or student centred techniques is their linkage in many people's minds with "progressivism". Historically, progressivism has rarely been associated with methodical planning and skilled organisation, and its beliefs have not been seen to be carried through into any clearly presented set of teaching and learning strategies. This has left many teachers, practical creatures by nature, feeling insecure. However, these conflicts and conundrums are not as essentially antithetical or mutually exclusive as they might at first seem. Increased student participation does not necessarily mean loss of teacher control. Peer tutoring is a strategy, a model for effective learning, which can resolve many of the teacher's current problems.

Same Age Peer Tutoring - A Possible Solution

As in any forward thinking department, the science staff at T. P. Riley have aimed to introduce new thinking and explore imaginative teaching by the creation of a non-threatening atmosphere where staff can extend their professional expertise and function as sound classroom managers to provide enhanced learning for their students. A number of approaches have been explored on the premise that good teaching and good classroom management can be trialled and evaluated, learned and mastered in the same way as any other skill.

By far the most beneficial experiment and one which has had the most far reaching impact on the school as a whole is the introduction of Same Age Peer Tutoring (SAPT). Originally, SAPT was one of the approaches we proposed to teachers who had still to get to grips with catering appropriately for the

demands of Process Science, increased Oracy work in English and Humanities, group investigation and problem solving techniques in Maths, etc. Our work was also focused by our firm belief in an "entitlement curriculum", fuelling our attempts to strive towards a curriculum not only available to all students but truly accessible irrespective of any differences or 'handicaps' in students' learning abilities.

While many teachers were desperately seeking enlightenment, many were also reluctant to increase an already heavy work load, had other priorities for time and energies, or clung to the safety of traditional methods despite the increasing inadequacy of these in the face of the new curriculum developments. Fortunately for its pioneers, most teachers involved began as willing sceptics but ended with enthusiastic espousal of the virtues of SAPT. As we discovered, the beauty of SAPT lay in its simplicity of operation and the dividend it pays in releasing the teacher from many of the stresses usually encountered on a daily basis. Lessons are more enjoyable and relaxed and there are immediately observable increases in student learning. This in turn results in increased teacher and student satisfaction which in itself is a motivating factor to further success. Neither does SAPT necessarily require elaborate materials.

Same Age Peer Tutoring - The Model

SAPT at our school operates in the following manner. The class teacher decides on pairings by arranging the class list in a rank order of ability. Students are then paired off **least** able with **most** able, and so on. (If preferred, the rank order can be split into two and the top of the first list paired with the top of the second list. This alternative method ensures a fairly constant differential in ability).

Students are then told who they are working with or they can play "find your partner" at the start of the lesson. In a chemistry lesson we gave one of the pair the name of a chemical element and their partner its chemical symbol. In a geography lesson we matched rivers, countries, towns, etc. Labelling the pairs in this way means that the teacher can address students according to their ability without making this obvious. Alternatively, simple colour coding will suffice. Similarly the teacher can govern who sits where, thus subtly separating undesirable combinations by employing a "find your work station" game, eg matching the chemical element the pair have been given with its atomic number signifying their work station. This introduces a little fun into the lesson while providing, at the same time, a learning exercise.

The SAPT lesson begins with teacher instruction to the class as a whole about the task they are to perform. Students then proceed with the task in a collaborative manner. The pairs undertake to rely on their partners, looking to each other for any help they may need and combining their efforts to puzzle out any problems that arise. This frees the teacher who can then check on students as they work. Soon, the pairs will have produced a correctly completed piece of work or task. Students have now to repeat the task but this time one will work independently and the other will check or test their partner's progress. **The most able partner always repeats the task first.** This provides the least able pupil with further demonstration and modelling. The least able partner may use the pair's completed correct version as an aid in checking their more able peer. Partners then swop over and the most able pupil tests out the least able, giving any guidance or support along the way that might be necessary.

Same Age Peer-Tutoring - a Learning Environment

In the SAPT model the students take responsibility for their learning. How they tackle the task is for them to decide. Once the routine is established, a series of tasks can be presented at the start of the lesson and students can work through them using their own initiative and proceeding at their own pace. The teacher becomes more of a facilitator of learning. Since students are intent on their tasks, the teacher has the time and freedom to intervene at will or simply observe. While such a learning situation provides scope for students to build good working relationships and learn self-management, leadership and organisational skills, the teacher still retains control of the learning targets and curriculum content. By careful graduation of tasks the teacher can build pace and rigour into the lesson. One of the attractions of SAPT is its dual capacity to provide student-centred learning experiences in a highly structured manner, thus providing the best of both worlds.

Much has been made of the hidden curriculum in schools. There are comparisons to be drawn between the effects of operating in a co-operative as opposed to a highly competitive environment. Co-operation between individuals within SAPT helps to eliminate failure; serves as a means for teaching respect for individual differences (black, white, male, female, fat, thin, clumsy, dextrous, etc.); develops empathy; teaches the ability to communicate with others not only effectively but in a friendly manner; fosters concern for or interest in another's welfare and the desire to win respect; and last but not least, develops positive interpersonal relationships between teachers and students, characterised by mutual liking and a positive attitude towards their joint ventures in the learning partnership. All these can only have a positive influence on the ethos of a school, since classroom behaviour is known to spill out into the corridor. This may be an added advantage to those schools trying to carry into practice an equal opportunities policy.

A frequent assumption in education is that more learning necessitates more resources - i.e. money. One of the biggest, best, most overlooked and underestimated resources is the human resource in the classroom. SAPT maximises use of the human resource.

The measure of a good teacher is the extent to which students learn. SAPT provides immediate and precise feedback on student learning. Not only is the teacher in a position to ensure that every student learns, but they are also able to see at a glance how each student is progressing and know exactly at the end of each lesson what has or has not been accomplished. Our experience of SAPT has shown increases in learning for least able and most able alike with respect to both skills and conceptual development. Spin-off from SAPT includes increased concentration span, accuracy of response, improvement in articulation and greater confidence in the use of subject-specific terminology.

The success of computer assisted learning has much to do with the structured interaction between learner and machine. SAPT offers the advantage of an intensive one-to-one interactive learning situation, along with some of the merits of computer-assisted learning such as immediate feedback and modelling, but without the exorbitant costs of CAL. Since children are teaching children, the learning material is translated into the special idiom of the learner and the teaching process itself is demystified and becomes a regular part of the youngsters' everday experience. In our SAPT model, students rehearse and practice new learning immediately after its introduction in a supportive and non-intimidating context. Repetition and practice is built-in, and enables every student four opportunities to learn. They first learn from

teacher instruction, then again from working co-operatively at the task with a partner, yet again as they perform independently and there is another chance as they test their partner. This goes some way to explaining why early trials of SAPT at T.P. Riley met with astonishment from teachers at the speed with which students acquired skills and concepts which had previously taken much teacher time and effort over longer periods of tuition - often with a much lower percentage of success.

Just as teachers need to be involved in decision-making for their own professional motivation, self-satisfaction and esteem, so students gain from taking an active role in their own learning and from receiving instant and continuous recognition of their achievements. This has to be a vast improvement on waiting idly for teacher to get round to you, or not getting your work marked until some considerable time after its production. Weak or less confident students attempt work in SAPT they would normally hesitate over or even shy away from. These students have an extra advantage in often being on the receiving end of 'on the spot' correction or incidental tutoring of basic skills, like spelling, from their more able partner.

Gains for the Teacher

An enormous bonus for teachers using SAPT is the impact it has on student behaviour. Students are deeply involved in their work and are unlikely to be working with anyone they have a great deal in common with other than the task in hand. The tendency to gossip about the latest pop record, football result, etc is now non-existent. This, and the added facility for the teacher to employ a seating plan, eradicates once and for all the tiring inexorable "desist!" commands characteristic of many classrooms.

We have already mentioned the intrinsic aspects of positive social training in SAPT. Our peer tutoring students are polite, helpful, kindly and caring towards each other. They appreciate the value of praise and reward each others' efforts with enthusiasm and encouragement which epitomises the exclusively positive approach of behavioural teaching models. Since students are absorbed in their own activities and prefer to rely on their own strategies (sometimes resenting teacher intrusion!), the need for constant teacher domination is removed. The teacher's role becomes more that of an observer, which apart from being infinitely pleasanter than dashing around also permits the teacher time to learn about how students are learning, thus providing useful insights for future curriculum planning. Releasing the teacher in this way results in possibilities for increased and optimum teacher/student contact.

Because as a teaching and learning model it is so easily mastered, SAPT withstands changes in staffing and conflicting priorities on teacher time. Since it is classroom based, it can be established irrespective of managerial problems in the hierarchy or the level of organisation in a school. It is highly relevant to the debate over lack of uniform standards in education, survives disunity of policy or practice and is a realistic endeavour to create equality of opportunity. The success of SAPT in improving factual or skill based learning across the curriculum and across the age and ability range has led us to further explore its application in the teaching of process science. (See Appendix).

Appendix

The following lesson plans illustrate the use of SAPT in the teaching of 'process' science. The lessons are from T.P. Riley's lower school science course, which begins in year one with a unit called 'Getting Started' and aims to introduce pupils to science process skills such as observing, classifying, hypothesising, predicting, inferring and controlling variables.

LESSON A INFERRING THE SHAPE OF THE CIRCUIT

In this activity pupils are given cards comprising of a series of 'windows' in a cardboard envelope which conceals the shape of the copper foil 'circuit' inside. Using a simple test circuit containing a bulb the pupils infer the way in which the windows are joined by considering their observations when any two of the windows are connected by the probes of the test circuit.

SAPT Lesson Plan

1. Short teacher introduction - activity is explained/demonstrated to the whole class, including instruction on how to record inferences about the patterns of connection.

2. Pairs work together to infer the shapes of their circuits. When the students come to an agreement, the pattern of connections is drawn in their books.

3. Teacher checks their inferences as the pairs finish the first part of the activity. The record they have made in their books forms the 'correct' version that can be used by the students when testing their partners.

4. The least able pupil shuffles the cards and their more able partner has to consider them by themselves, explaining verbally to their 'tutor' why they think the windows of the card are connected in a particular way. The tutor checks their inferences using the 'correct' version recorded in their book.

5. The roles are reversed.

6. Extension work: pupils construct their own circuit cards and use them to test their partner's ability to infer the shape of the circuit.

LESSON B DETERGENT FOAM

In this activity the students are required to observe and measure the foam produced when detergent is shaken with water in a test tube. The experiment is carried out using one, then two and then three drops of detergent and the height of the foam is recorded. Using their results, the pupils are then asked to predict what will happen in several particular cases involving different water samples and various amounts of detergent.

SAPT Lesson Plan

1. Brief teacher introduction/demonstration of activity.

2. Pupils complete a copy of the table below, first of all working together and then reciprocally checking.

Number of drops of detergent added to tap water	Height of foam (cm)
1	
2	Pupils work together to complete
3	

3.

Type of water	No of drops of detergent	Predicted height of lather	Actual height of lather
Tap	4	Pupils work together to complete	
Rain	1		
River	2	Most able makes the prediction	Least able does expt to check
Sea	3	Least able makes the prediction	Most able does expt to check

4. Questions (answered by pairs working together)

   (a) How good were your predictions?

   (b) What affects the amount of foam produced when detergent is shaken with water?

LESSON C IDENTIFYING VARIABLES THAT MIGHT AFFECT AN EXPERIMENT

The questions posed at the end of the 'Detergent Foam' lesson give an opportunity to lead into a lesson on identifying variables that might affect an experiment. In this activity the pupils are given a list of variables - some of which will make no difference at all. The pupils are asked to identify those which will make a difference, e.g. what affects the time it takes to boil a beaker of water?

SAPT Lesson Plan

1. Teacher leads class discussion about what affects the amount of foam when detergent is shaken with water.

2. Teacher introduction to the activity using the example 'What affects the time it takes me to get to school?

3. Pupils work in pairs to complete set task, i.e. each pair is given an envelope containing pieces of card with a question and different statements written on them.

e.g. What affects how high a rubber ball bounces?
Height from which ball is dropped?
Colour of ball?
Day of week?
Sunny or dull day?
Type of surface?
Dropped or thrown?

Pupils first find the question card and then sort out the statements into two groups - those which affect the answer to the question and those which have no effect.

4. Pupils ask teacher to check their groupings. Discussion if necessary.

5. Pupils copy the question and the two groups of statements into their books.

6. Least able pupil checks out more able pupil by mixing up the cards and asking him or her to re-sort them.

7. More able pupil checks out their less able partner in the same way.

8. Pupils exchange their envelope for another containing a different question and repeat the activity.

9. Extension work: pupils choose one of their 'questions' and design and carry out an investigation into the effects of the variables they have identified.

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KNOWING YOU - KNOWING ME

A Peer Counselling Project

Jean Bond

What is it that is attractive about the 'caring' professions? It is certainly not the money that attracts people to jobs like teaching, nursing and social work, nor the status. What is it that encourages one human being to become involved in the growth and survival of another? Perhaps there is a dim awareness of our inevitable interconnectedness, or perhaps it is that in caring for and contributing to the well-being of others we satisfy some intrinsic human need to feel a sense of our own competence and worth that is difficult to achieve in any other way.

According to Maslow (1970) one of the pre-requisites to achieving a state of self-actualization is a sense of one's own worth. Sadly, he states, few people ever attain this condition, most of us remaining devoted to our own self-interest, feverishly searching for those situations, relationships or possessions which will give us a sense of security, love, recognition or status in the eyes of others. These attempts to satisfy our 'deficiency needs' as he calls them, limit our capacity for growth and creativity, or self-expression.

As long ago as the 60's and 70's writers were stressing the significance of self-esteem as a factor in the learning process. During the 80's educators have been turning their attention in this direction and many personal and social education programmes now include exercises designed to raise self-esteem in pupils. There are problems with this however. Since we cannot protect pupils from adverse feedback, (indeed the whole culture is based on comparison and competition which produces more losers than winners), then it is likely that raising self-esteem in the classroom will not have a permanent result. How are educators to tackle this problem? Perhaps the question becomes 'how do we encourage pupils to <u>accept</u> themselves?'

How? According to Rogers (1980) we give them empathy and unconditional positive regard and we do this authentically, not hiding behind any pretences. In other words we have to 'come clean' about ourselves and be open and revealing with those we are serving; we have to be willing to suspend our own self-interest, let go of our own views or opinions and shelve our judgements about other human beings. In responding to others in this way it seems to follow that we might learn to adopt the same attitudes towards ourselves. Rogers maintains that the counsellor and the counselled should both become more self-accepting.

Research undertaken by Bond (1987) indicated that this might be the direction to take. A pupil tutoring scheme was set up in which 13 and 14 year old pupils who had been designated 'disaffected' tutored 5 and 6 year olds who had learning difficulties. Although not asked to "counsel" the younger pupils, the tutors began to appreciate the difficulties the little ones were experiencing and empathise with them. The result was that they saw their own problems in a new light. Because they were not condemnatory of the little ones, but understood why they had developed problems with learning, they began to understand why <u>their</u> problems had arisen and be more accepting and less self-deprecating. One of them began to see why he had developed avoidance strategies. Although it enabled them to accept their own inadequacies it also enabled them to see that something could be done about them - they did not have to write themselves off. Their commitment to their tutees transferred to themselves.

Having had this experience with these pupils, it was exciting to be given the opportunity to become involved in a peer counselling project which was being implemented in a Senior High School in Leicestershire. The programme had been offered as an option to lower Sixth Formers, the idea being that Fourth Formers would be identified who were experiencing problems with schoolwork, or relationships at school or at home, or who perhaps had behavioural problems and who were willing to accept counselling as a means of resolving their problems.

Peer counselling is not a new idea. It has been operating in the U.S.A. since the mid 70's (see Tindall & Gray, 1985), but to date few Peer Counselling schemes appear to have been set up in this country that have ben documented in the published literature. According to Tindall & Gray the purpose of such a scheme is to enable pupils to '..listen, understand and communicate better' and to do so in ways which will enable others to handle some of the 'rough spots in their lives'.

A number of aims and objectives were identified, as follows:

Fourth Years: (4Y) - The Counselled

1. To enable them to identify and resolve problems they are having which might be inhibiting their academic attainment.
2. To develop self-acceptance.
3. To enable them to understand their own behaviour and become more responsible for their own lives.
4. To give them an opportunity to communicate and enable them to function more effectively in social situations.

Sixth Formers: (6F) The Counsellors

1. To increase self-confidence.
2. To generate self-understanding and self-acceptance.
3. To give them practice in communication skills.
4. To develop their understanding of other human beings.

In order to assess the effectiveness of the programme it was proposed to monitor progress on several variables. Self-acceptance and acceptance of others would be monitored using Berger's Acceptance of Self and Others scale (1952). School attendance would be monitored via school attendance registers. Improvements in self-confidence, ability to relate to others and self-understanding could be evaluated by interviewing both groups of pupils before the commencement of the scheme and at the end.

Sixteen pupils aged 16 to 17 opted to take Peer Counselling as part of their Sixth Form studies programme. There were 2 males and 14 females. This is probably fairly representative of the proportions of males and females who enter the caring professions. They had listened to a description of the course aims and programme before they made this choice. The sample was split into two groups and each group assigned to one of two teachers. The group had to be split into two because timetables differed for each pupil. One group of five girls was assigned to a female teacher and the remaining group of eleven was assigned to a male teacher. Each teacher used the programme suggested by Tindall and Gray (1985), altnough the female teacher used additional material taken from Canfield and Wells (1976) and from courses she had attended herself.

The training programme was to operate for a term and a half (22 weeks) and the 6F group members would then be allocated to a 4Y pupil and begin a counselling programme. The 6F pupils would consult with their teachers and refer to them if any problems arose which they found difficult or impossible to cope with. Letters were to be sent out to the parents of 4th year pupils who were considered to be suitable for the scheme and those pupils whose parents were in favour of their children participating would be invited to take part and allocated to a 6F Counsellor.

The Berger Scale was administered to all 6F pupils in the first week of the programme. It consists of two sub-scales, a 'self-acceptance' scale consisting of 36 items and the 'acceptance of others' scale which has 28 items. This Likert type scale is scored as follows. Statements expressing a favourable attitude towards the self or others are given a value of 5 for 'true to myself' responses; 4 is assigned to 'mostly true of myself', 3 for 'half way true of myself'; 2 for 'slightly true of myself' and a score of 1 for 'not at all true of myself'. This is reversed for negatively worded items. Scores are obtained by summing items in each sub-scale respectively with high scores indicating favourable attitudes towards self and others. Scores were converted into percentages for convenience. Pupils in the 6F group were interviewed individually by the researcher during the first week of the programme and replies were tape-recorded and transcribed. It was intended to interview the 4Y group when they were identified.

The major problem was that no 4th years were identified who would volunteer to take part in the scheme. Also, after three months one of the teachers involved left the school to have a baby and four of the pupils dropped out as they found the training programme too confronting. At this point it was decided to concentrate on the effects that the training programme might have had on self-confidence, self-understanding, self-acceptance and relationships with others as far as the 6F pupils were concerned. This, at least, would indicate if there was any value in the scheme from that point of view.

A few of the pupils left the scheme after the first three months, and several others left and took jobs after that time, with the result that only six pupils were available for post-testing out of the original sixteen. Analysis of the pre and post Berger tests for the remaining 6 6F pupils produced some interesting data (see Table 1).

TABLE 1 PRE AND POST TEST RESULTS ON BERGER SCALE

Pupil	Pre-Test		Post-Test	
	Self %	Others %	Self %	Others %
A	49.4	66.4	58.3	73.6
B	75.5	79.3	80.0	73.6
C	60.5	71.4	73.8	69.3
D	83.3	85.0	78.6	75.5
E	57.2	70.7	75.5	76.4
F	80.0	82.8	64.4	80.0

Owing to the small size of the sample it was considered pointless to carry out any statistical analysis of the data. Nevertheless some interesting changes occurred. There were quite obvious percentage gains in the scores of five of the pupils from pre to post test, average increases for the five pupils amounting to almost 10% on the acceptance of self sub-scale and three of these pupils' increased by 13% or more. Only half the pupils' scores increased on the attitudes to others sub-scale however. The average increase of these scores was 6.5%. Three other pupils'scores decreased in their attitudes to others although only one of these was to any marked degree.

Taped interview responses of 6F pupils were analysed to see if any changes in self-confidence, self-understanding or relationships with others had taken place. On the pre-test interview pupils indicated that they were lacking in confidence and that their tolerance of others was not too good e.g. "I'm very outspoken and tend to say things and then regret saying them afterwards". Another pupil felt that she needed to understand people better, learn to listen and take other people's problems seriously. She was worried about other people accepting her and became embarrassed easily when talking to strangers. Others felt that it would 'make me feel better about myself' (i.e. raise self-esteem), 'make me better at listening to people and .... make me a bit more confident', 'get on better with strangers - get to know them better', 'help me to look at my faults', 'help me to be more decisive', 'make it easier to talk about my problems'. One of the interesting items that emerged on the pre-test was that 80% of the pupils cited 'big-headedness' or 'conceit' as one of the things they found difficult to tolerate in others. On the post-test most of these pupils realised that this particular characteristic probably indicated a lack of confidence in the person concerned, something which had not occurred to them before the training programme commenced.

Pupils felt that a variety of problems that the 4Y pupils presented might prove difficult for them to handle. These included abuse by parents (physical or sexual), other problems with parents and drug abuse. Problems such as bullying or difficulties with schoolwork they felt they might be more able to cope with. On the whole 6F pupils felt they could probably cope with problems that arose with which they had some personal experience. Only two had problems with their parents and none had reportedly had problems with drug abuse.

Interviews on the post test yielded some interesting comments. Generally speaking all pupils felt that they had gained in self-confidence and self-understanding and that their relationships with others, especially in terms of their ability to listen and be tolerant of the weaknesses of others, had improved. This was not consistent with the results of the Berger test of attitudes to others.

Subject D: "I was fairly confident but I feel a bit more confident because I don't think I am so much of a biased person. I used to point the finger at people. People don't like it. So I think people like me better now".

Subject C: "It has made me more confident to help someone else. I will say something if I really want to: before I would just sit there and leave it".

Subject F: "I was really shy before. I didn't think I was all that shy but this made me realise I was. Now I am not shy any more".

Subject A: "I used to put myself down, but I probably don't do that as much".

Subject F: "Also I think I am more confident. I used to think that people were going to laugh at me ... It made me realise that I am a person that does count and nobody is going to laugh at me. They will value my beliefs".

Subject E: "I am more understanding of other people now because I look at their meanings rather than my own ... Beforehand I tended to think of myself rather than other people".

Subject B: "It made me more aware of someone who has got a problem ... You never think anyone has as much worry as you have and you find out that quite a few people have had things happen and not talked about it."

Subject A: "It makes you think more before you make a judgement or say anything ..."

Subject D: "Understanding people more; it helps you understand yourself more. You relate that to you. Their reaction can make you think yes, that's like myself - it's a two way thing ... I am definitely more tolerant 'cause you start to understand that a lot of the problems are really complex and can't be solved simply. I've got a friend who tends to be aggressive 'cause of what is happening at home so I am understanding him more and being a bit more tolerant rather than judging and saying that you are getting on my nerves."

Subject F: "I used to think that people who cause a lot of trouble were real pains and that I couldn't deal with them, but now I try to understand why they might be doing it and whether they are searching for attention and whether they have got a bad background which may be causing this trouble and I try to get to know people before judging them".

Subject E: "Beforehand I thought my parents don't want me to do anything then all of a sudden I could see their reasoning 'cause I listened to them more. I also found that when I did listen they gave me more freedom because they could see I was taking note of what they were saying."

Subject B: "I wouldn't turn round and start dictating to people now. It has made me more aware of someone who has a problem. I just shut up and listen ... I am more tolerant when people are upset".

Subject A: "If there is any controversy I can listen to other people's point of view easier now ... People have been coming to me with their problems now. I seem to be able to help people ... I get on better with strangers now especially .... I will be working with the public when I leave school. It will have helped with that a lot."

Subject D: "I became a good listener, rather than say this is what you do. You get a more accurate view of what is going on ... It has brought me closer to my friends because I respect their point of view, respect the way they are".

Although it was disappointing that the scheme did not proceed as intended, the pupils yielding data clearly felt they did derive benefits from the training programme. Considering the comments of the pupils on the post-test interview it would seem that the training programme for peer counselling is something that is worth pursuing in itself, despite the obvious problems associated with setting it up, particularly in finding people who are willing to be counselled. These pupils obviously felt that it would have been worthwhile to take part in the counselling aspect of the project. One pupil even tried to find her own counsellee.

If Personal and Social Education (PSE) was presented within the context of peer counselling, i.e. if it was used as a training procedure which preceded active counselling, it might become a far more acceptable activity to students and teachers alike. It would not be feasible to offer this opportunity to all High School pupils, but it could certainly be offered as an option. One of the problems of implementation of this project lay in the nature of the school, a Senior High School for pupils aged 14 onwards. Had younger pupils been available for counselling aged from 11 or 12, I believe the scheme would have had more chance of being completed. I did suggest to the teachers concerned that they could draw on the Junior High School for their clientele, but this would have been extremely difficult to implement at that late stage, needing a great deal of liaison, consultation and planning. The pupils interviewed certainly felt this was a worthwhile experience which had produced for them many personal benefits. There are indications that this is a promising venture to undertake, especially for those schools which have a large number of disaffected pupils or pupils with personal problems who cannot be given the amount of personal attention and individual communication that they need.

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PEER TUTORING WITH A LEVEL CHEMISTRY STUDENTS

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I was teaching at a tertiary college and most of my timetable was occupied with A level Chemistry classes. Looking for a way to improve the Chemistry of the students, I decided to have the second year students teach the first year students. It was further decided to see if a measurable improvement could be detected in the performance of the tutors. The second year A level group contained fourteen students and the first year group contained seven students. Although the groups were small, it was fortuitous that fourteen is double seven. It was decided to split the fourteen into two equal groups by putting the class into rank order on the basis of a test; pairs of students were then taken from the ordered list (1 & 2, 3 & 4, 5 & 6 etc.) and each pair was divided between the two groups on the toss of a coin. One of the groups was then chosen, by the toss of a coin, to be tutors and one group was to be a comparison group, taught by the experimenter. The tutees were also rank ordered, so that the most successful of the tutors taught the most successful of the tutees, and so on downwards, maintaining a roughly similar differential in ability between pairs.

The subject matter for the tutoring was chosen from the A level syllabus using a number of criteria. It had to be an important topic, which had already been taught to the second years, but was unfamiliar to the first years. It had to be within the grasp of all the students, but it also had to be something that had not been learnt well by the second year students. It also had to lend itself to precise testing. The topic chosen was "mechanisms in organic chemistry." This met all the aforementioned criteria.

A test was needed to check the relative progress of the tutors and the comparison or control group before and after the exercise. A satisfactory test was not in existence. It was therefore decided to write a test taking care to make each question as discriminating as possible. The test was checked before use by asking a very good candidate from another group to do it. Two Chemistry teachers were also asked to make their comments. Changes were made to the test in response to the answers and suggestions. A time limit of 50 minutes was chosen so that all the candidates might be expected to finish all the questions. The test contained two subtests. One corresponded to the subject matter that was to be taught and the other to the remaining part of the syllabus which included mechanisms in organic chemistry. The reason for including the second part of the test was that if the tutoring had made certain concepts basic to the understanding of mechanism clearer, then the tutors should be able to perform better on questions which they had not taught.

The experiment was conducted as follows. About a term before tutoring, it was mentioned to the second year group that some of them would be asked to teach a topic to some of the first year group. After their mock A Level examination and one month before tutoring, the second year group were given the 50 minute test without warning. The entire content of the test had supposedly been revised for the mock examination. The two groups were then selected as described previously on the basis of the test, which was marked by an independent Chemistry teacher. Two weeks before tutoring the class was told the groupings and a straightforward explanation of the exercise was given.

The experimenter stated that he did not know what results to expect. The first topic for revision and tutoring was given as free radical substitution of alkanes and cracking. The second topic was electrophilic addition to alkanes. They were told that there would be two half hour sessions, one for each of the topics.

A few days before each of the sessions a series of points were given which should be known about each topic. The tutors were given no training except to tell them not to ask their tutees 'do you understand'?, but rather to ask them pertinent questions. They were also told that tutees were to be tested after the tutoring to see if they had been taught properly. The control group were told to revise the topic and that they would be asked questions about it orally during the revision lesson. The first year group was rank ordered on the basis of an internal Chemistry examination. The first year group were also given a straightforward explanation of the exercise and were told that they might be asked to act as tutors the following year.

Before the students arrived for the exercise the names of the tutoring pairs were written on the blackboard. As they arrived the teacher pointed out tutors to tutees and vice versa. They were allowed to organise themselves. The control group was taken to an adjacent room and the same topic was revised with the teacher by question and answer. When the half hour was finished and the tutees had gone, the tutors were briefly and informally asked how the session had gone. At the next first year lesson they were duly given a ten point test on the topic. The tutors were later told that the tutees had done well, as indeed they had, although the test results were not meant to be part of the experiment. Unfortunately, at the second session two students were missing, a tutor and a tutee. The spare tutor and tutee were paired off and the same procedure followed as before. On the same day the second year group were told that they would be given a test on mechanisms in organic chemistry. They were given the test the following Tuesday.

The first year students were tested as promised in their next lesson and positive feedback given to the tutors, since the test results were very satisfactory. The positive feedback was given after the tutors' second test. The second 50 minute test, given to the second year students, was marked by the same independent Chemistry teacher, who had marked the test before, but she was not told which student had been placed in which group.

A summary of the results is presented in table 1.

Table 1 Mean Test Scores and Gains for Tutors and Control Group

TUTORS	PRE-TEST		POST-TEST		MEAN GAIN
	MEAN	S.D.	MEAN	S.D.	
PART A	14.0	4.1	18.0	5.1	4.0
PART B	11.0	4.0	14.4	4.7	3.4
TOTAL	25.0	7.4	32.4	9.1	7.4

CONTROL GROUP	PRE-TEST		POST-TEST		MEAN GAIN
	MEAN	S.D.	MEAN	S.D.	
PART A	15.0	3.9	17.8	4.6	2.8
PART B	11.1	2.9	14.1	4.2	3.0
TOTAL	26.0	6.6	32.0	7.6	6.0

The difference in scores between tutors and control students does not reach statistical significance, although the tutor group did better.

It is worth while reporting a number of observations associated with the exercise. Seven tutors were chosen and there is reason to believe that they took their task very seriously. One boy came to me on two separate occasions to ask about very minor points along the lines of 'what if he asks me ....?' He was nervous. A girl tutor was a re-entry candidate who had been awarded three F's at A Level the previous year. On the morning of the first tutoring session, she came to get her lesson clear. She said that she had tried hard, but could not get on top of the subject matter. She remained until the subject matter was clear. Never before or since had Mandy shown such concern. The girl that she tutored was the 'poorest' of the first year group, and yet on the brief ten point test given later, she scored full marks and was the only one to do that.

During the tutoring session the whole atmosphere was studious; there was no hint of anybody not taking the matter seriously. At the end, all but one of the comments received were positive, both from the tutors and from the tutees. As a teacher I was sufficiently happy with the tutoring not to feel any need to re-teach the topics to the first year students, although they were fundamental to the syllabus.

How was it then, that such an apparently positive experience should have produced improvements which did not reach statistical significance? One possibility is that the test instrument was not sensitive enough. A second possible reason is that a small sample was used. Because of attrition the number of pairs eventually finished at six. Calculation with certain assumptions showed that a sample size of 110 pairs would have been needed to have found a statistically significant result with the size of difference found in this experiment. A third possible reason is that pairing was not carried out efficiently. With hindsight it was thought that it might have been better to have used the mock examination results for pairing. The mock examination was a reproduction of the 1965 JMB Chemistry paper which was long, pre-tested and reliable. However, the correlation of the mock examination results with the post-test was .73 (n=14) whereas the correlation of the post-test with the pre-test was .89 (n=14).

Yet another possible cause of the lack of statistically significant results is that the tutoring was of a short duration. The tutoring only lasted for two half hour sessions. Perhaps this was not long enough to produce a measurable effect.

A final possible cause is that gains could have been in terms of morale and feelings rather than academic performance. The students were in a situation where they were already working hard. Their final examination was a term away and several had grades to aim for from universities. The exercise was held at about the time of a parents' evening. All the teachers were pushing the work ethic hard. In addition, the group was, on the whole, hard-working and motivated to begin with. To expect an additional ounce of flesh was perhaps stretching things too far.

No measure was made of the learning of the tutees. The reason for this is that they had not met the material at all before and they would indubitably have learnt something from the experience, so a gain was assured. With a larger number of tutees a comparison of gain could have been made with a control group undergoing a more conventional method of instruction.

If it is assumed that both tutors and tutees can benefit from the peer group tutoring experience at A level in Chemistry, then there are two sets of questions to be asked. One set relates to how the benefit can be incorporated into the overall teaching framework and the other relates to the general theoretical framework of peer tutoring.

The teaching of A Level Chemistry is generally syllabus orientated and therefore constrained. If peer tutoring is to be used extensively then second year students must be trusted to teach new and important topics to first year students. This is a step which many teachers would probably be reluctant to take. Several very clear demonstrations of the benefit to tutors and tutees would be needed. However, it could become one of several strategies which might be employed to provide interest and variety. The 'Hawthorne effect' is not to be underestimated in this respect.

The following questions to spring to mind with respect to this study:

1. If tutoring does improve performance at this level, is it related to:
   a. increased responsibility?
   b. introduction of variety?
   c. verbalisation of the subject matter?
   d. some other factor or factors?
2. Does tutoring benefit one group rather than another, e.g.
   a. the poorly motivated?
   b. those with poor self-image?
   c. the withdrawn?
3. How well do the tutees do compared with:
   a. being taught in class?
   b. being taught by different tutors, including experienced teachers?

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Changes in Reading Style Following Peer Tutored Paired Reading and Listening to Reading.

Trish Joscelyne

The success of Paired Reading in helping children read has been well documented in this Bulletin and elsewhere. PR has mostly been used with parents as the tutors and where reading tests have been used, increases in reading ages have been between 2-6 times 'normal' reading attainments (e.g. Robson et al., 1984). Despite the number of studies on PR, however, classroom constraints have meant that there have been few attempts to show that PR is more effective than any other method of parental participation in reading. In fact, studies that have tried to show such a difference have mostly not shown that PR is any better than more traditional methods of listening to children read. Out of 13 comparative studies using PR and other methods of parental participation in reading, 9 did not show that PR is any better than other method. Of those that did show PR resulted in higher reading ages, none of them showed any statistically significant differences. In the study by Heath (1985), only 4 subjects were used to compare PR with a method called 'Reinforcement Reading' and no analysis is given. Equally the study by Jones (1987) showed a 2 month difference between PR and a traditional listening to read group, but no statistically significant differences were shown. Burdett (1985) found some evidence that a PR group showed a reduction in the number of errors made after the project, but no analysis is given for this data. Lastly Jungnitz (1985) found PR improved reading more than a previously implemented home reading scheme but as her groups were not matched at the beginning of the study, it was impossible to make a direct comparison between the two relevant groups.

Studies that do give analysis of the data have found no differences between other methods and PR. Lindsay, Evans and Jones (1985), for example, compared PR with a method called Relaxed Reading in which parents were encouraged to listen to their child, giving them lots of praise and encouragement. Both approaches showed equal benefits for the child's reading and the authors suggested that as Relaxed Reading was easier to teach parents, this should be the preferred method. If Lindsay and Evans were right in their analysis, and given the majority of the evidence, there seems to be little point in teaching PR as a method, and perhaps it would be better if parents were simply asked to use their current method of reading with a child, but to reduce any negative comments?

There are however two main problems with many comparison studies: The first is that the numbers used are usually very small which prevents there being any statistically significant differences between groups. For example Spiby (1986) who found no differences between PR and reading aloud used a sample size of 5 subjects in each group.

The second problem with comparative studies is that it is very difficult to make sure that parents are doing Paired Reading with their children and not simply keeping to their usual method of reading. Evidence that this may be the case comes from a study by Wareing (1985), who found no difference between PR and a Listening approach, but also found that most of the parents in her PR group had abandoned PR by the end of her study. Elliot (1988) found that only 16 out of 30 families in a PR project did some PR for all of the six week duration of the project. It is possible, therefore, that studies comparing PR with other methods failed to find differences because the parents may have been using more traditional listening approaches rather than PR.

Winter (1988), however, suggests an alternative explanation as to why there have been few differences found between PR and other methods in which tutors are trained. In his project tutors and tutees were tape recorded twice and recordings were analysed to see how closely pairs were adhering to the taught technique. As in the above studies, he found that tutors were really not very good at using PR, in particular they used praise very seldom and they did not spot many of the tutees' errors, nor did they correct these errors in the four seconds specified. There was still, however, a significant improvement by tutees in reading age and this was not related statistically significantly to how well their tutors had used PR. Winter suggests that PR improves reading ages, not because of the technique itself but because of general motivational factors which arise when the 'tutee perceives that significant persons in his life ... are concerned about his well-being and committed to helping him develop.' Winter suggests that previous methods that contain these 'counselling' elements such as Relaxed Reading are as useful as PR and this is why no differences were shown. Studies such as Crombie & Low (1986) where the control group consisted of older and younger children reading individually in the same room, found PR to be the most effective method because the comparison method did not provide sufficient motivation for the tutee.

If Winter is correct in his hypothesis then any method, (as long as it had trained tutors, and tutees who saw themselves as receiving help from somebody significant in their lives), should be as effective in accelerating reading ages as PR. As argued above, however, the PR group must be receiving PR in its taught format in order to truly test the method.

Winter used peers in his project in order to be able to monitor how much PR was being used, as regular home visits would have been difficult to carry out. The use of peers as tutors for PR was first reported by Winter & Low (1984) and since then numerous studies have been reported in the United Kingdom (see e.g. Topping, 1987a) showing the effectiveness of the method. Although peer tutoring does not have the benefit of involving parents, it is easy to implement, does not require monitoring by costly home visiting and can involve all the class, with benefits to the good as well as the slower reader (Topping 1987a). Peer tutoring therefore would seem a useful format within which to compare PR with other methods of reading tuition.

A problem with many PR studies is that the type of evaluation used is typically in the form of a reading test (usually the Neale Analysis of Reading Ability). Not only have these types of reading tests been criticised for their use as repeated measures in the short term, but they tell us very little about why there are changes in the child's reading. Bushell, Miller and Robson (1982) and Miller (1985) have argued that PR succeeds because it helps the child use a 'top down' approach to reading, encouraging the use of semantic and syntactic clues to identify a word. Few studies, however, have tried to look at changes in patterns of reading behaviour. Two exceptions are Scott (1982 & 1983) who gave 4 subjects subtests on sound blending and sequencing of letters and also a miscue analysis before and after PR and found that although there was little or no improvement on the subtests, there was some evidence of an increased use of graphic, syntactic and semantic cues in three of the subjects used. Lee (1986), using a variation of miscue analysis, found that self-corrected errors and the proportion of errors judged to be contextually appropriate rose after a six week PR study and were maintained at a long-term follow-up.

The present study, therefore, set out to look at two questions: Would peer-tutored PR produce higher reading gains than the same amount of time spent listening to reading? Does PR have a general effect on reading or does it improve particular reading skills?. If PR, with its emphasis on reading 'normal' books and on reading for meaning, helps the reader use a 'top down' approach to reading, then one would expect the paired readers to be making syntactic and contextually appropriate mistakes during reading and show improved comprehension of material read. One would not expect them to show an improvement in being able to sound out single words or an increase in the amount of mistakes based on grapho-phonemic cues only.

For example, given the sentence 'The children watched television', a child using grapho-phonemic cues only would make a guess based on what the word looked like and perhaps suggest 'telephone', the child using syntactic cues would know that the next word was a noun that you could use without 'a' or 'the' before it and suggest 'school', while the child using semantic cues only would know it was something that children watched and suggest 'cartoons'. After Paired Reading children might be making more guesses that made sense, such as 'cartoons', rather than ones that looked similar to the original word but did not make sense.

In order to look at these questions a seven week peer tutoring study was conducted. Readers and their tutors were divided into two matched groups, one which received training in the PR technique and the other training in a Listening approach. The "Listening" group were given training in a method commonly used by junior school teachers when they listen to children read in class. It was hypothesised that this group would not make any substantial gains in reading and that the method would not result in any changes in the reading process.

To monitor any changes in reading behaviour all readers were given a variety of tests which looked for changes in abilities to decode words and also in the use of context in identifying words.

METHOD

Subjects

Twenty-two children from three classes in two Brighton primary schools were selected for this experiment. They were chosen by their teachers on the basis that they would benefit from remedial help in reading. A further twenty-two children from the same classes were then selected by their teachers who were considered to be good readers and responsible enough to act as tutors. The poorer readers were then asked to choose a tutor from the more able group. Any left over children were then randomly paired. Pairs were then checked to make sure that there was at least a difference of 12 months in reading accuracy age between the good and poorer readers which was the case. As there were different numbers of girls and boys in the tutor and reader groups no attempt was made to control sex combinations of pairing. The Paired Reading group had 6 single sex pairings and 5 different sex pairings, the Listening group had 7 single sex pairings and 4 different sex pairings. All children were then tested on the Neale Analysis of Reading Ability (form C) (Neale, 1966) and the poorer readers were divided into two groups matched for reading accuracy age, (i.e. word decoding skill), comprehension age, chronological age and gender (eight boys and three girls in each group). Although it was not possible to match the two groups of tutors, they did not differ statistically significantly except in chronological age, ($t=3.69$, $df=20$, $p<0.01$.). (The PR group tutors were older).

One of the groups was then randomly chosen as the Paired Reading group and the other as the Listening group. The characteristics of the four groups are shown in Table 1.

TABLE 1
Means and Standard Deviations of Subject Characteristics.

Group (all n = 11)	Chronological Age (sds shown in parenthesis)	Accuracy (given in years and months)	Comprehension
PR readers	10.3 (0.24)	8.6 (0.72)	8.10 (0.82)
LG readers	10.2 (0.30)	8.6 (0.69)	8.3 (0.81)
PR tutors	10.5 (0.13)	11.5 (0.83)	10.8 (1.21)
LG tutors	10.1 (0.31)	11.8 (0.88)	10.6 (1.02)

CSV

People for People

the volunteer programme

Inviting all young people to experience the challenge, excitement and reward of helping others.

The Volunteer Programme involves young people as full time volunteers — they are called CSVs — working in face to face contact with people in need.

The National Volunteer Network, open to all young people in the 16-35 age range is at the heart of the programme. It offers the challenge and growing experience of working full time with people in need, and some 2000 young people respond to the challenge each year.

They work for 4-12 months away from home and receive board, lodging and £16 per week pocket money.

In addition to maintaining the National Volunteer Networ CSV has pioneered schemes for Young Offenders, volunteers with physical disabilities, young peopl problem drug users, homeless young people have given and gained from being invol

Because the numbers of teen- nation's culture and valu divert energy to persuade in the past the number of y balanced the number of pro of volunteers in 1987 was acu

However, energetic marketing

sponsorship from Barclays Bank have reversed the trend in 1988.

Not By Head Alone

CSV believes that we do not learn by head alon through the whole range of human experi to, and with, others is an integral par CSV there is as wide a range of volunteers and users. Each

From the '60s an residential physi

advisory service

Working with teachers to develop community involvement across the curriculum through publishing, training and innovative pilot projects.

CSV's belief in learning responsible citizenship through active involvement has been taken up by leading members of the Cabinet. Whilst not (yet) included in the national curriculum, CSV has continued to pioneer school pupil and student involvement.

The Study Service Project at Coventry Polytechnic has demonstrated how students' achievements as well as the community benefit from curriculum related programmes. ext year we will be spreading this experience to other ons of higher education. The 'Open Doors' project in s proved the shared value of retired people and king together on carpentry, history and It is to be launched nationwide

The 'Open Doors' project bridges the generation gap at South Benwell School, Newcastle.

people can be enterprising in projects with and for their community by bringing together the best in community involvement and enterprise skill development.

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ducation CSV is not only ment the changes but is ning packages for teachers.

CSV's Retired & Senior Volunteer Programme (RSVP)

RSVP is based on people volunteering as a group. Older people have a wealth of life skills and experience which could greatly enhance their communities. Each group of at least 5-6 people plans its own activities, makes contact with local agencies and develops the projects they take on. The group is self sufficient. Activities could include links with local hospitals, schools, libraries, museums, homes for the elderly, house-bound etc, the possibilities are endless. Area coordinators will provide guidance and support and will be available for information, advice and training.

March 1988 saw the launch of the RSVP starter pack

CSV, 237 Pentonville Road,
London N1 9NJ.
Telephone: 01-278 6601.

Training

Paired Reading Training:

These children received a standard Paired Reading approach as outlined in the Paired Reading Training Pack (Topping, 1986).

Listening Group Training:

The Listening group tutors were seen separately from the Paired Reading group. Their instructions were that the reader had to read aloud and the tutor had to correct any mistakes within 4 seconds by modelling the word and asking the reader to repeat it. The difference between PR and the Listening method, was that at no point during the session did the tutor and the reader read together. Training also differed in that the Listening group tutors were asked to check that the books read were not too hard for the reader, whereas the tutors in the PR group were asked to check only that the books were within their own reading level. Instructions on giving praise and for discussing books were the same as for the PR group.

In each training session tutors were subsequently joined by the readers, who were shown the appropriate method, and pairs were then asked to practise. All pairs were checked during the session to ensure that they were using the appropriate method correctly. Pairs were subsequently checked about twice a week to make sure they were still keeping to the taught methods.

All tutors were asked to keep a record of what books and how many pages were read each session. This record took the form of a bookmark which the reader kept in their book.

The PR group with their tutors and the Listening group with their tutors then met separately for 15-20 minutes four times a week for seven weeks, interrupted after the third week by half term which lasted for one week.

A wide range of story and information books was made available to both groups. The schools had well stocked libraries and books were brought in by the experimenter and the children themselves. The children were encouraged to read anything they wanted, including comics. Both groups had access to the same books.

Tests Used:

As well as the Neale Analysis of Reading, yielding a reading accuracy age and comprehension age, two other tests were used to assess the readers' subskills in reading.

Miscue Analysis:

In order to test the children's use of cues in tackling unfamiliar words it was decided to take note of and analyse all errors made in two matched passages, one read before and one read after the project.

Two passages were taken from 'Making Sense of It' (Arnold 1984): 'Saving Money', (281 words; Readability levels: Spache 10.5, Fry 11.5) and 'Becoming a Conjuror', (270 words; Spache 10, Fry 12). All the poorer readers read 'Saving Money' before the project and 'Becoming a Conjuror' after the project. ('Saving Money' was first as it was thought to be the easier passage). All errors made were classified into Non-responses, Omissions, Insertions, Reversals, Self-corrections or Substitutions and the words substituted were noted.

Substitutions were then classified into one of two categories:

1. Grapho-phonemic: child gets first sound right plus one other sound in the word (e.g. the ending or middle vowel).

2.Contextually appropriate: the miscue makes sense given the amount the child has read so far.

(The use of syntax was omitted from the analysis as very few errors were judged to have been guessed using syntax alone - most syntactically appropriate errors were also contextually appropriate.)

Phonics Test

Pages one and four of the Domain Phonic Test (McLeod and Atkinson 1972) were given before and after the project. This test requires the child to read out a list of unrelated words, later analysed to obtain a score of how many phonic rules had been mastered.

RESULTS

The main interest of this study was to look at any differences in improvement between the PR group and the LG group after the seven weeks. One tailed t-tests were used, to analyse the differences between mean improvements between the two training groups. The readers did all tests and the tutors only did the Neale test.

Neale Analysis of Reading:

Form B was used after the project. Table 2 gives the post-project means and improvements for all groups.

TABLE 2
Subject Characteristics After the Project and Mean Rates of Improvement

Group	Accuracy (Age in years	Comprehension and months)	improvement(months) accuracy	comprehension
PR readers	9.5	10.2	+10.36	+16.45
LG readers	8.9	8.9	+2.91	+6.55
PR tutors	11.11	11.4	+6.64	+8.91
LG tutors	11.11	11.9	+3.91	+14.72

There was a significant difference in improvement in reading accuracy between the readers for the two types of training, $t=3.14$, $df=20$, $p<0.005$, with the Paired Reading group improving in reading accuracy more than the Listening group. There was also a significant difference between groups in improvement in comprehension, $t=3.23$, $df=20$, $p<0.005$, with the Paired Reading group improving more in comprehension than the Listening group. There was no statistically significant difference in the improvement of tutors' scores, for either accuracy or comprehension, but this may well have been due to a ceiling effect as the Neale test becomes extremely insensitive after about 11 years. As can be seen by the means, the Listening group tutors showed a very large improvement in comprehension.

Miscue Analysis

Several aspects of the miscue test were analysed for differences between the groups. Firstly an analysis was done on the overall number of errors made. Two scorers (one independent of condition) separately classified each error as being either a substitution, refusal, omission, reversal or self-corrected error. Most errors were either substitutions or refusals so these were the only errors analysed. Substitutions were then subdivided according to whether the substitution was contextually appropriate or whether it was based solely on grapho-phonemic cues. As the stories used before and after were not very closely matched for difficulty, each type of error was analysed as a percentage of the total number of errors on the passage, and the type of substitution as a percentage of total substitutions for that passage. Table 3 gives means for all the miscue analyses.

TABLE 3
Mean Changes in Total Number of Miscues and Mean Changes in Percentages of Type of Miscue Made in the Miscue Analysis (Readers only).

	Mean Changes Post-Project	
	PR group	Listening group
Total number of miscues	-2.00	-1.64
proportion of errors that were substitutions	14.91%	0.09%
proportion of errors that were refusals	-5.91%	5.36%
proportion of substitutions grapho-phonemically appropriate	3.46%	9.18%
proportion of substitutions contextually appropriate	-4.27%	-12.91%

There was no statistically significant difference in the reduction of errors made between groups.

Substitutions: There was a significant difference in the proportion of substitutions made before and after the project between the two groups ($t=2.46$, $df=20$, $p<0.025$), with the PR group making a higher proportion of substitutions than the LG group after the project.
Refusals: There was a significant difference in the number of refusals ($t=1.96$ $df=20$ $p<0.05$), with the PR group having a lower proportion of refusals than the LG group after training. (As most errors were either refusals or substitutions this was expected).
Grapho-phonemically Appropriate Substitutions: There was no significant difference between the two groups in the proportion of grapho-phonemic errors made.
Contextually Appropriate Substitutions: Even though both groups made fewer contextually appropriate errors after the project, the difference in proportions of such errors after the project was greater for the PR group than for the Listening group, although this effect was only marginally significance, ($t=1.43$ $df=20$, $p<0.1$).

Phonics Test

The differences in scores on the phonics test before and after the project did not differ statistically significantly between training groups. Table 4 gives the means in the phonics tests.

TABLE 4
Mean Number of Errors in the Phonics Test (Readers Only).
(Maximum number of errors = 109)

Group	Before	After	Difference
PR	33.45	27.73	-5.62
LG	24.18	19.27	-4.91

properly standardised for higher reading ages and as mentioned earlier it becomes insensitive after 11 years.

Problems were encountered in this peer tutoring study. Doyle and Lobl (1987) have already outlined some organisational problems such as the large noise level encountered when the whole class are reading aloud. In addition, this study encountered two specific difficulties. The first was making sure that the pairs read, using the proper method, for the whole of the seven weeks. Some pairs decided that they preferred other methods of partnered reading and, for example, took turns at reading. Although they may have been more comfortable with this, it would be impossible to monitor the success of PR if no pairs were using the prescribed method! The speed with which pairs drifted into other methods of reading does suggest that, as hypothesised, previous studies comparing methods may not have found differences because not all pairs were using the prescribed method.

A second problem was in the use of miscue analysis to look at reading changes. Although this approach is often recommended, marking the miscue passages is an extremely long and difficult task. The difficulty lies in trying to decide whether substitutions are contextually appropriate or not. Although this study used two markers, they disagreed on over 20% of the errors. The guidelines provided with the miscue inventory were not specific enough for the decision to be wholly objective.

Despite some difficulties, however, the results from this study show that a period of peer tutoring using the Paired Reading method does help children's reading. It would also seem that the children who would most benefit from this approach are those who do not make attempts at words, perhaps because they do not want to be seen to fail. During PR, such children start making many more attempts at words. They also understand more of what they read and there is some suggestion that their guesses are more based on context than on sounds alone although this effect was only marginally significant.

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DISCUSSION

The findings from this experiment support previous findings that PR can produce large gains in reading performance over a short period of intervention. In addition, this study used a comparison group that received the same amount of extra reading and attention as the PR group, but did not make similar gains in a reading test. This suggests that it is the actual technique of PR rather than the extra practice or attention that is most effective in improving reading, at least where peer tutoring is concerned. The results from the Neale test show that simply listening to a child read is not as effective as doing PR with them. This study also suggests that it is not only the use of parents that makes PR a successful method of helping children's reading: even without parents' involvement a carefully monitored use of PR can improve a child's reading ability more than three times as much as a Listening approach. Previous studies may not have found differences between a PR group and a comparison group because they did not adequately monitor both groups to make sure PR was actually being used in all sessions.

Given that both groups in this study experienced high motivational factors such as taking part in an experiment and having a chosen friend help them, and given that the teachers did not know which was the PR group, the results do not give any evidence to support Winter's (1988) hypothesis that if tutors are trained in a method and are sufficiently supportive it does not matter what that method is.

This study also gives some support for the suggestion that Paired Reading has an effect on reading by helping the reader use a 'top down' approach to reading. Firstly the PR group improved substantially more in the Neale comprehension test than did the Listening group, showing that there was an improved understanding of what was read. Secondly, although the two groups did not differ on the phonics test (which tested for isolated words), or in the total errors made in the miscue analysis, they did differ in the type of error they were making. The PR group made more substitutions after the project and refused less words. They were therefore making more attempts at words they did not know. There is also some suggestion that their substitutions were more related to the surrounding context than were the substitutions of the LG group. This was despite both groups making fewer contextually appropriate errors after the project, (possibly because the passage used after training was more difficult to use context in.)

Why does PR increase the number of substitutions made by a child during reading? It is possible that due to the relatively unstressful way of tackling an error during reading, (no 'sounding out'), the child is more relaxed about trying out unfamiliar words. . It should be noted, however, that the Listening group also had a relatively unstressful way of tackling errors. The only difference between the two methods was that the Listening group did not do simultaneous reading. Possibly Paired Reading gives a more general boost to the child's confidence and a result of this is that the child begins to tackle words they are not sure of getting right.

Another possibility is that during simultaneous reading the poor reader learns to tackles all words because they are not being specifically listened to or "checked on" and this carries over into independent reading. Further investigation is needed into different types of error correction procedures to resolve this issue. As Topping (1987b) has pointed out, different methods of correction result in different changes in the reading process, so that it is important not just to look at advances in word recognition when judging the relative merit of word correction strategies.

Previous studies using peer tutored Paired Reading have found that the children who benefited most from the training were the tutors. Although the PR tutors' reading did improve in this study, there was also an improvement in the Listening group tutors and this group also showed a large increase in comprehension. It is possible therefore that it is the tutoring aspect of the project rather than the particular method used that helps tutors. - perhaps just attending more closely to text improved tutors' reading and comprehension and it was not important if they joined in reading or not. Equally it may be the effect of praising their partners and discussing books with them. It is difficult, however to come to any conclusions with the Neale test scores as this test is not

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Appendix
Replication with Alternative Reading Style Analysis (Experiment 2)

Although Experiment 1 suggested that after a Paired Reading project children were using context to guess at words they did not know, this effect was only marginally significant. This may have been due to two problems. Firstly there was the difficulty in using the Miscue Analysis to accurately judge the contextual appropriateness of a substitution. Secondly the passages seemed particularly badly matched in their styles in such a way that the second passage may have been more difficult for the child to make guesses at the words. In order to try and avoid these problems, Experiment 1 was repeated using a different set of children who instead of the Miscue Analysis, received a further test of their use of context.

METHOD

A further forty-four children from three classes of one Brighton primary school were used in this experiment. Selection procedures were the same as in Experiment 1 and the subjects were divided into Paired Reading and Listening groups as before with the same training being given. Table 5 gives the mean characteristics of readers and tutors.

TABLE 5
Means and Standard Deviations of Subjects Before the Project

group (all Ns=11)	Chronological Age in years and months. (Standard Deviations in parenthesis)	Accuracy	Comprehension
PR readers	9.7 (0.29)	8.3 (0.67)	8.6 (0.92)
LG readers	9.7 (0.32)	8.3 (0.57)	8.7 (0.79)
PR partners	9.7 (1.10)	11.0 (0.32)	10.7 (0.88)
LG partners	9.7 (0.29)	11.0 (1.07)	10.9 (0.84)

Assessment Tests

Neale Analysis of Reading:
As before, Form C was used before training and Form B after training.

Context Test:
Two passages were taken from the 'London Reading Test' (I.L.E.A. 1980): 'Snow' and 'The Thing'. These were adapted to produce two matched passages with Fry readability levels of approximately 10.5. The passages were adapted for the test in that most of the passage was easy to read, but there were 20 difficult words included in the passage at intervals, so that unlike the passages used in Experiment 1, the readers were more likely to be able to use the preceding context to guess the hard words. In addition, the 20 difficult words from the passage were made into a separate list which was given to each child before the passage. The child was asked to try and read the words, saying as much of the word as they could if the words were not immediately recognisable. The child was not told if he/she had read the word correctly or incorrectly. It was presumed that any words that were not read in the list, but were read in the passage, must have been read using syntactic and semantic cues, since if the child was relying on grapho-phonemic cues only, the word would have been read in isolation.

RESULTS

Table 6 shows the results of the Neale Analysis of Reading for both readers and tutors and the improvement in scores after the seven weeks of Paired Reading.

TABLE 6
Neale Analysis of Reading (After the Project)

Group	Accuracy	Comprehension	Improvement (months) Accuracy	Comprehension
	Age in years and months			
PR readers	8.9	9.3	6.27	8.55
LG readers	8.7	9.1	3.64	5.73
PR tutors	10.11	11.7	0.45	11.18
LG tutors	10.11	11.6	0.19	8.45

The results of the Neale test were analysed as for Experiment 1. There was a significant difference in improvement in accuracy between the readers for the two types of training ($t=1.88$ $df=20$ $p<0.05$), with the PR group improving more after training than the Listening Group. There was no significant difference in improvement between the two groups for comprehension and no significant differences between the improvement of the two groups of tutors' scores. As in Experiment 1, however, the tutors were scoring highly on the Neale test and the lack of significant difference may reflect a ceiling effect.

Difference between Words in Isolation and Words in Context.

The number of test words read in isolation and in context and the difference between the two were calculated for both groups before and after the project and the means are given in Table 7.

TABLE 7
Words Read in Isolation and in Context (Readers Only)

group	before project			after project		
	solo	context	diff	solo	context	diff
PR	6.82	7.36	+0.55	8.55	10.27	+1.73
LG	5.45	6.27	+0.82	7.27	8.0	+0.72

A one tailed t-test was used to calculate differences between groups before and after the project. There was no significant difference in words read in context as opposed to in isolation between groups before the project, ($t=0.37$.) There was, however, a significant difference for words read in context between groups after the project ($t=1.90$ $df=20$ $p< 0.05$), with more words being read in context than in isolation by the Paired Reading group than for the Listening Group.

DISCUSSION

Experiment 2 again demonstrates that Paired Reading, when carefully monitored, is more useful in accelerating childrens' reading than simply listening to children read. In addition to this it also suggests that Paired Reading helps children by enabling them to use context to guess at unfamiliar words. Using a much simpler technique than the miscue analysis of Experiment 1, it shows that children can use context to guess at words that they are not able to read by the use of phonic analysis only and that these guesses become more accurate after taking part in a Paired Reading Project.

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PARTICIPANT EVALUATION OF PARENT-TUTORED AND PEER-TUTORED PROJECTS IN READING

Keith Topping and Marjorie Whiteley

Systems for one-to-one tutoring by non-professionals in basic skills have attracted considerable attention in the literature in recent years. Professionals in the education system have come to the realisation reached some decades ago by the medical fraternity - that there will never be enough qualified personnel available to offer direct service to all those in need. In medicine, the main result was the reallocation of some resources to prevention and the training and deployment of paraprofessionals. In education, the result has been a surge of interest in open learning, co-operative learning and non-professional involvement.

Many of these new developments have an individualised and democratic flavour, encouraging students to take greater control of their own learning. Many place considerable emphasis on one-to-one tutoring as a means of maximising time on task and immediacy of feedback. Nor has effectiveness been sacrificed. Benjamin Bloom (1984) found that the average student exposed to one-to-one tutoring produced attainment test results two standard deviations above the average for control groups taught conventionally. He therefore described as the "2-σ problem" "the search for methods of group instruction as effective as one-to-one tutoring". Subsequently, Levine and Meister (1986) noted that while the currently fashionable Computer-Assisted Instruction is relatively cost-effective, it is not as cost-effective as peer tutoring. As school teachers have grown more used to the truth that learning is not always, and perhaps indeed not usually, the direct result of professional direct teaching, schools have increasingly sought to involve parents in the educational development of their children, and have explored the use of peer and other non-professional tutors.

Parent and Peer Tutoring

Initially, schools had a fairly loose approach to parental involvement. In the basic skill area of reading, for instance, a widespread practice was to encourage children to take reading books home to be "heard read" from pre-specified pages, perhaps with some simple home-school record card to signify completion of the set task. With experience, many schools refined the organisation of home-school reading schemes, to capitalise on parental strengths and evade their potential weaknesses, so that reading at home complemented the professional instruction in school. Techniques for parental involvement in reading began to be developed which were not merely watered down versions of traditional teacher practice, such as Paired Reading (Morgan, 1986) and Pause Prompt and Praise (Glynn et al., 1987). A review of a range of such techniques will be found in Topping (1986).

The massive expansion of interest in the involvement of parents in their children's reading soon spilled over into peer tutoring, a method which had been sporadically in and out of fashion over the decades, but which now came to be seen as a powerful educational tool when well-organised by professionals (Topping, 1987a). More committed and thoughtful schools developed a "Whole School Policy" for non-professional involvement in one-to-one tutoring at home and school, deploying different techniques with different tutors in different constellations in different environments in a great variety of ways in sequences appropriate to the development of the children concerned (Topping, 1989a).

Well-developed methods such as Paired Reading began to be applied not only to the peer tutoring situation in school, but also in Adult Literacy, where spouses, other relatives, friends and workmates were trained to give brief daily one-to-one tuition in the natural home or work environment, representing a radical breakthrough for those adults who were unable or unwilling to attend weekly classes, which in any event were of doubtful efficacy (Topping and Scoble 1986, Scoble et al. 1988). More sophisticated, multi-faceted approaches have begun to emerge, such as Von Harrison and Gottfredson's (1986) "Companion Reading" package of materials, which combines direct instruction by a professional with peer tutoring and parental involvement. In parallel, work has proceeded on developing systems suitable for use by non-professionals in other curricular areas. Harrison has been involved in the production of packages of materials for mathematics tutoring, while a simple, materials-free technique for spelling tutoring has been developed (Topping et al., 1988).

Of these techniques and developments, the simple semi-structured approach of Paired Reading has gained widespread acceptance, and is now in use throughout the Western world.

Paired Reading

The Paired Reading technique itself, and the organisational parameters crucial for its effective implementation, are more fully described in the Paired Reading Training Pack (see footnote) and in Topping and Wolfendale (1985). A novel feature of the Paired Reading method is that the tutee chooses the reading material, irrespective of its level of difficulty, provided the readability level remains within the competence of the tutor. The technique allows for tutees to be supported through texts of high readability levels, with understanding explored by associated discussion and questioning. Most tutees quickly become skilled at choosing their own books.

During difficult text, the tutee is supported by Reading Together - both tutor and tutee read all the words out loud together, with the tutor adjusting speed to achieve synchrony. The tutee must say every word correctly. Where the tutee makes an error, the tutor merely repeats the word until the tutee reads it correctly.

When encountering easier sections of text, the tutee makes some pre-arranged non-verbal signal to tell the tutor to be quiet. The signal might be a knock, a nudge or a squeeze. The tutee continues reading alone until an error is made which is not self-corrected within 5 seconds, when the same correction procedure is applied, and the pair revert to reading together. There is much emphasis throughout on praise for correct reading, self-correction and signalling to read alone.

Context

In 1983 the Kirklees Local Education Authority established a project to help schools to train, guide and support parents in the use of the Paired Reading technique. Services offered to schools included briefing on the PR technique for professional staff, advice on project planning, input to training sessions for parents and children, materials for training and evaluation, finance to defray the expenses of teachers making home visits in the evening, general support and review meetings and arranging other kinds of assistance. The work of the project rapidly developed beyond parental involvement in reading into peer and other non-professional tutoring, and other curricular areas.

The Kirklees Local Education Authority (school district) comprises some 240 schools, of which 83 ran at least one project from 1984-7, and is within the most disadvantaged quartile of school districts in England as indicated by census data. The 2,760 children participating from 1984-7 represented the full range of socio-economic status in the district, except that there was an over-representation of children of slightly above average socio-economic status and an under-representation of children of very much above average socio-economic status. Children of below average socio-economic status were represented in proportion to their existence within the background population.

Method

Almost all the schools involved availed themselves fully of the support services available. Thus the majority of projects run within schools tended to follow a similar model. Teachers were trained in the technique and asked to practise on co-operative children until they achieved mastery, while bearing in mind that PR was essentially designed as a non-professional tutoring technique, which may not necessarily be easy for teachers to acquire, given their own complex learning history. A first PR project usually started with a small group of children of a range of reading ability who were closely supported and monitored. Care was taken to ensure that a wide range of books were available on easy access, for the children typically read through a prodigious volume of books, and the factor of child choice effectively rendered much of the existing stock redundant on occasion.

Tutors and tutees were typically trained together in one group meeting. Often participants were presented with an amusing role play or video of "How Not To Do It". A brief lecture and the presentation of written materials on the technique were coupled with a demonstration of the procedure (live or on video), followed by participants practising the technique in their pairs, and receiving feedback and individual tuition as appropriate from professional monitors until the technique was mastered. Necessary organisational information was given and participants would often contract into the scheme more or less formally.

It was typical for family pairs to contract into involvement for five sessions a week of at least five minutes during an initial intensive period of 8-9 weeks. In fact, the average family pair read for more than twice this amount of time during each session. This initial commitment creates clear expectations for tutees and tutors. It also ensures that the majority use the technique frequently enough to become both fluent and practised in it and also see a significant change in the reading ability of the tutee, which should reinforce the tutors into continuing using the technique in the longer term.

Monitoring of subsequent tutoring took various forms. In the case of parental involvement, many school used a simple home-school diary record system, with the family recording books read and positive comments on child progress, which were reviewed weekly by the co-ordinating teacher. Observing the children choosing books in school and questioning them about their experiences at home could provide revealing insights. Many schools arranged teacher-parent meetings in school during the project, either individual or group, to review progress and ensure that technique had not drifted. For peer tutor projects, direct monitoring of subsequent behaviour in school is of course a great deal easier.

About a quarter of the total number of projects were supported by home visits by teachers, particularly where the parents were hard to reach or had other difficulties, or the children had a chronic reading problem. These were universally welcomed by parents and children alike, and the research evidence clearly demonstrates that they increased the effectiveness of the project. It was very rare for home visits to be seen as an intrusion in any kind of neighbourhood.

At the end of the initial period of commitment, tutees and tutors were typically drawn back together to discuss their experiences and review their wishes regarding continuation. Many participants report wishing to continue using the technique with the same frequency indefinitely, although some choose to continue but less frequently, while a few wish to stop altogether or use a different technique.

"Objective" Outcomes

During the years 1984-7, 83 schools were known to have operated 185 projects involving 2,760 participating children. Of these, norm-referenced evaluation data was yielded by 71 schools on 155 projects incorporating 2,372 children. Seventy-five per cent of the participating children were tutored by their natural parents, 8 per cent by same-age peer tutors, 6 per cent by cross-age peer tutors, 1 per cent by adult volunteers, 1 per cent by teacher volunteers, and in 9 per cent of cases the nature of the tutor was unrecorded.

For the 2,372 children aged 5-13 years for whom norm-referenced pre-post data were available, during the initial intensive contract period (mean 8.6 weeks) of each project, the average child gained 6.97 months in reading accuracy age and 9.23 months in reading comprehension age, measured on a variety of group and individual tests. This implies that these children were gaining at 3.3 times "normal" rates in reading accuracy and 4.4 times "normal" rates in reading comprehension, if a gain of 1 month of reading age per calendar month can be taken as "normal".

These basic data are supported by control group studies conducted in 37 different school-based projects, involving 580 participants and 446 control students. For both reading accuracy and comprehension the difference between participant and control groups is statistically significant at far beyond generally accepted levels. Baseline studies were carried out, involving 288 subjects, and indicated that gains in reading accuracy during the participant period were more than twice gains during the baseline period, again highly statistically significant. This did not however apply to reading comprehension, since baseline gains on the reading tests employed were also well above "normal" levels.

At short-term follow-up (less than or equal to 17 weeks), students were still progressing at more than twice normal rates in both accuracy and comprehension. At longer term follow-up (greater than 17 weeks) students were still progressing at above "normal" rates - 1.2 for accuracy and 1.4 for comprehension. The average follow-up period was 26 weeks overall. There was no evidence of "wash-out" of gains.

Different types of tutors did not produce significantly different gains in tutees, except that teacher volunteer tutors did significantly worse in producing reading accuracy gains than any other kind of tutor. Although the

gains of peer tutors were greater than the gains of peer tutees in reading accuracy, this difference was not statistically significant. For peer tutoring, there was strong evidence that male-male combinations produced the best outcomes for tutees and tutors. This latter finding is reported in more detail in Topping and Whiteley (1988), and the other research in Topping (1989b).

Subjective Outcomes: Measures

However, what primarily concerns us here is not the norm-referenced "objective" data, but the subjective perceptions of effectiveness of the major participants in these Paired Reading projects, namely the parents, the peer tutors, the child tutees and the class teachers involved. The views and opinions of the major active participants are of equal if not greater value than any purportedly "objective" test. At "feedback" meetings at the end of the initial intensive period of commitment of a project, the tutors and tutees would offer their verbal comments on their experiences. Unfortunately, recording of such comments yields only fragmentary and anecdotal data, which is extremely difficult to compare from one project to the next. Previous studies which have reported subjective data have often done so in a way which renders comparison with other work extremely difficult.

In the work reported here, standard "feedback questionnaires" were used to solicit the subjective views of the major participants. A questionnaire for class teachers was designed to solicit the views of class teachers on the extent to which participation in a project might have produced effects in children which generalised into other reading activities in the ordinary classroom. A lower readability version of this was used with parent tutors, to solicit their views on changes in child reading behaviour in the home setting. A largely similar questionnaire was used by peer tutors to report upon the progress of their tutees. The tutees themselves, whether parent-tutored or peer-tutored, completed a simpler questionnaire which enquired about practical organisational details as well as their own attitudes to the project and their views on changes in their attainments.

All of the questionnaires were structured in multi-choice format, with alternation of position of positive and negative options to obviate the possibility of "yea-saying" based on primary or recency effects. The range of multiple choices varied between questionnaires: teachers were offered positive, negative, no-change and not observed options, parent and peer tutors were offered positive, negative and no-change options, and tutees were offered only positive and negative options. These structures were deemed the most appropriate in the search for simplicity with adequate meaning content. Not all projects utilised feedback questionnaires, and those projects that did utilise such devices rarely deployed all of them.

All questionnaires were completed at the end of the "intensive period" of a project, at around the time of the feedback meeting. Parent questionnaires were given to 1466 participating parent tutors, teacher questionnaires to classteachers with respect to 475 participating children tutored by their parents, child questionnaires to 964 participating children tutored by their parents, peer tutor questionnaires to 185 participating peer tutors and child questionnaires to their 185 peer tutees. Parent questionnaires were used in 85 almost wholly primary school projects, teacher questionnaires in 29 primary school projects, child questionnaires in 57 mostly Junior age projects, and peer tutor and tutee questionnaires in 13 mostly Junior age projects.

Process Data

It should be noted that the work reported here was deficient in process evalution measures. There was generalised self-recording by tutors and tutees in virtually all the participating families and peer tutorial pairings, but this gave little indication of how precisely the tutors were conforming to the required technique. In 25 per cent of parent-tutored projects, home visits were carried out by co-ordinating teachers to ensure that technique was showing minimal signs of "drift", but data from these home visits were not recorded in a structured and systematic way permitting subsequent analysis. In peer tutor projects, activity was always monitored and supervised by co-ordinating teachers, but again detailed process data were not gathered.

Although every attempt was made at training meetings to ensure that no participant left the meeting without having demonstrated mastery of the required technique, subsequent maintenance of the required behaviour could not be assumed. It is clear from anecdotal verbal information offered at feedback meetings that by no means all parent tutors conformed to the prescribed technique subsequent to the training meeting, and thus their questionnaire feedback may be commenting on the effectiveness of what they actually did rather than on the effectiveness of what they were supposed to be doing.

Results

The information gathered from the analysis of 2,521 feedback questionnaires is collated in tables 1-5 (see below).

In table 1, the responses of over a thousand parents are summarised. Approximately 70 per cent of responding parents considered that their child was now reading more accurately, more fluently and with better comprehension. A slightly smaller proportion were reported to be reading more expressively and demonstrating a more positive attitude to reading. Perhaps the most striking outcome is that 78 per cent of parents reported that their children were now more confident in reading. Fifteen per cent of parents reported that their children were now behaving better at home, a not insignificant proportion of the total.

On every comparable item, the responses of class teachers were less positive. Given that the teachers had an additional multiple choice, this would of course be expected if teacher responses to the questionnaire were random. Additionally, for those projects where teacher questionnaires were used, the questionnaire return rate for parents was markedly less than those for teachers, which could tend to give a positive bias to the parental feedback data. On the other hand, the fact that a far greater number of projects utilised parental feedback questionnaires might imply that it is in fact the teacher questionnaire data which has a positive bias. In the event, the differences in positive responses between the two kinds of feedback is so great for certain items that it cannot be readily explained in terms of artefacts within data gathering. Perhaps most striking is that parents were very much more likely than class teachers to note that their children were now reading more expressively and more widely than before, as well as being more willing and taking more enjoyment in reading.

Table 1 Subjective Feedback from Parent Tutors and Classteachers

Concerning Reading, Child Reported to Be:- +		At Home, By Parents		
		Positive Responses	Total Responses	Proportion Positive
1	Reading More	661	983	67%
2	Reading More Widely	721	986	73%
3	Understanding More	649	955	68%
4	More Confident	761	971	78%
5	More Willing	634	974	65%
6	More Interested	569	960	62%
7	Enjoying More	723	994	73%
8	More Accurate	695	976	71%
9	More Fluent	707	985	72%
10	More Expressive	589	954	62%
11	Better Behaved	138	936	15%

+ Parent questionnaire format offered 3 options, negative/no char
Teacher questionnaire format offered 4 options, negative/no cha
++ X^2 ,d.f. = 1, probabilities two-tailed, Bold figures statistic

NB: In the 85 projects using Parental Questionnaires, not all
all returned questionnaires (1068) had responses to all item

Parallel figures for the 29 projects using Teacher Questionn

Mean percentage positive responses per questionnaire (Parent
Mean percentage positive responses per questionnaire (Teache

At School, By Teachers			Difference	Significance
Positive Responses	Total Responses	Proportion Positive	in Proportions Positive	of Difference++
266	420	63%	+ 4	0.172
221	415	53%	+20	0.000
241	409	59%	+ 9	0.002
289	415	70%	+ 8	0.001
200	414	48%	+17	0.000
237	416	57%	+ 5	0.081
238	414	57%	+16	0.000
279	416	67%	+ 4	0.135
265	415	64%	+ 8	0.004
156	408	38%	+24	0.000
57	412	14%	+ 1	0.787

ge/positive
nge/not observed/positive
ally significant

participating parents (1466) returned questionnaires, and not
s (questionnaire return rate 73%).

aires were: 475, 430, 91%

s) = 61%
rs) = 53%

Table 2 compares the subjective feedback from parent tutors and peer tutors. Considerable similarity is evident. Parent tutors were significantly more likely than peer tutors to consider that their tutees were more fluent and more expressive in their reading. The differences in response rates could be taken to imply that the peer tutor subject feedback is less likely to be positively biased than the parent tutor feedback.

The subjective feedback from participants who were tutored by parents and those who were tutored by peers is delineated in table 3. The subjective feedback from parent tutees is on the whole considerably more positive than that from all peer tutees taken together, although again a portion of this could be explained by differences in response rates. Striking differences are evident on the first two items. Parent tutees reading at home were much more likely to report that it was easy to get books than were peer tutees in school. However, home was clearly more replete with other distractions than school, for a much greater proportion of peer tutees reported that it was easy to find time. Although the general attitudinal indicators to reading were better for parent tutees, no less than 82% of peer tutees now reported liking reading better. In terms of self-reportage of skill levels, a very high proportion of both groups felt that they were now more proficient at reading (93-95%), and very similar proportions in both groups wished to carry on with their Paired Reading (68-70%).

Table 4 takes the data on subjective feedback from peer tutees which is summarised in table 3, and sub-divides it according to whether the participants were tutored by children of the same age (age-peer) or of a greater age (cross-age). The responses of the age-peer tutees were on the whole considerably more positive than those of the cross-age tutees. This is particularly true with reference to problems of finding a good place to do the reading, which seemed to be a great deal easier for age-peer tutorial pairs, usually operating in their own classroom, than for cross-age tutorial pairs, where movement would be necessary for at least one member of the pair.

Another organisational problem is reflected in the greater difficulty reported by cross-age peer tutees in gaining access to books. Cross-age tutees were less likely to find the self-recording system helpful and the organisational value of this could be further scrutinised. Age-peer tutees were more likely to report improved attitudes to and skill in reading, but even the responses of the cross-age tutees were very positive in this respect. There was no difference in the proportions between the two groups who wished to continue with Paired Reading. In the case of this analysis, there is no significant difference in return rates to take into account as a mediating factor.

The differences in results between these two groups has implications for the results in Table 3, which compared parent tutees with all peer tutees taken together. There is greater similarity between the feedback from parent tutees and age-peer tutees than between parent and cross-age tutees. However, parental tutee feedback remains markedly more positive than age-peer tutee feedback on three items (Liked Doing It, Getting on Better, Will Tell Others).

Table 5 indicates that for the tutors in cross-age and age-peer tutoring projects, there was only one significant difference, age-peer tutors being more likely to consider their tutees to have improved their reading expressiveness.

Table 2 Subjective Feedback from Parent Tutors and Peer Tutors

Concerning Reading, Tutee Reported to Be:- +		By Parent Tutors Positive Responses	Total Responses	Proportion Positive
1	Reading More	661	983	67%
2	Reading More Widely	721	986	73%
3	Understanding More	649	955	68%
4	More Confident	761	971	78%
5	More Willing	634	974	65%
6	More Interested	569	960	62%
7	Enjoying More	723	994	73%
8	More Accurate	695	976	71%
9	More Fluent	70	985	72%
10	More Expressive	589	954	62%

+ For both questionnaires, format offered 3 options, negative/n
++ χ^2,d.f. = 1, probabilities two-tailed, Bold figures statisti

NB: In the 85 projects using Parental Questionnaires not all p
returned questionnaires (1068) had responses to all items

Parallel figures for the 13 projects using Peer Tutor Ques

Mean percentage positive responses per questionnaire (Pare
Mean percentage positive responses per questionnaire (Peer
(fewer items in peer tutor questionnaire)

By Peer Tutors				
Positive Responses	Total Responses	Proportion Positive	Difference in Proportions Positive	Significance of Difference++
114	156	73%	- 6	0.170
114	151	75%	- 2	0.612
100	148	68%	0	0.996
107	149	72%	+ 6	0.089
97	150	65%	0	0.989
82	146	56%	+ 6	0.199
98	150	65%	+ 8	0.071
97	150	65%	+ 6	0.120
87	150	58%	+14	0.001
76	153	50%	+12	0.006

o change/positive
cally significant

articipating parents (1466) returned questionnaires, and not all
(questionnaire return rate 73%)

tionnaires were: 185, 158, 85%

nts) = 61%
Tutors) = 64%

Table 3 Subjective Feedback from Parent Tutees and Peer Tutees

Concerning P.R., Tutee Self-Reports:+		Parent Tutees		
		Positive Responses	Total Responses	Proportion Positive
1	Easy to Get Books	528	682	77%
2	Easy to Find Time	400	674	59%
3	Easy to Find Good Place	590	684	86%
4	Easy to Learn to Do	586	672	87%
5	Liked Doing It	560	674	83%
6	Record Sheet Helpful	563	677	83%
	P.R. has led to:			
7	Liking Reading Better	607	662	92%
8	Better at Reading	638	674	95%
9	Getting on Better with Each Other	588	637	92%
10	Will Go On with P.R.	475	678	70%
11	Will Tell Others re P.R.	601	670	90%

+ Questionnaire format offered 2 options: negative/positive
++ X^2, d.f. = 1, probabilities two-tailed, Bold figures statisti

NB: In the 57 projects using Child Questionnaires, not all pa
returned questionnaires (692) had responses to all items (

Parallel figures for the 13 projects using Peer Tutor Ques

Mean percentage positive responses per questionnaire (Pare
Mean percentage positive responses per questionnaire (Peer

Positive Responses	Peer Tutees Total Responses	Proportion Positive	Difference in Proportions Positive	Significance of Difference++
85	172	49%	+28	0.000
131	169	78%	-19	0.000
125	170	74%	+12	0.000
134	169	79%	+ 8	0.012
113	172	66%	+17	0.000
111	169	66%	+17	0.000
138	168	82%	+10	0.001
157	169	93%	+ 2	0.507
129	164	79%	+13	0.000
117	172	68%	+ 2	0.674
118	171	69%	+21	0.000

cally significant

rticipating children (964) returned questionnaires, and not all
questionnaire return rate 72%).

tionnaires were: 185, 173, 94%

nt Tutees) = 83%
Tutees) = 74%

Table 4 Subjective Feedback from Age-Peer Tutees and Cross-Ag

Concerning P.R., Tutee Self-Reports:+		Age-Peer Tutees Positive Responses	Total Responses	Proportio Positive
1	Easy to Get Books	52	91	57%
2	Easy to Find Time	72	89	81%
3	Easy to Find Good Place	78	89	88%
4	Easy to Learn to Do	74	91	81%
5	Liked Doing It	63	90	70%
6	Record Sheet Helpful	68	89	76%
	P.R. has led to:			
7	Liking Reading Better	81	90	90%
8	Better at Reading	87	89	98%
9	Getting on Better with Each Other	69	86	80%
10	Will Go On with P.R.	61	90	68%
11	Will Tell Others re P.R.	62	89	70%

+ Questionnaire format offered 2 options: negative/positive

++ X^2, d.f. = 1, probabilities two-tailed, Bold figures stati

NB: In the 10 projects using Age-Peer Tutee Questionnaires, all returned questionnaires (91) had responses to all i

Parallel figures for Cross-Age Tutee Questionnaires were

Mean Percentage positive responses per questionnaire (A

Mean Percentage positive responses per questionnaire (C

ge Peer Tutees

n	Cross-Age Peer Tutees Positive Responses	Total Responses	Proportion Positive	Difference in Proportions Positive	Significance of Difference++
	33	81	41%	+16	0.044
	59	80	74%	+ 7	0.643
	47	81	58%	+30	0.000
	60	78	77%	+ 4	0.615
	50	82	61%	+ 9	0.278
	43	80	54%	+22	0.004
	57	78	73%	+17	0.008
	70	80	88%	+10	0.021
	60	78	77%	+ 3	0.744
	56	82	68%	0	0.924
	56	82	68%	+ 2	0.976

stically significant

not all participating tutees (99) returned questionnaires, and not
tems (questionnaire return rate = 92%).

e: 3, 86, 82, 95%

ge-Peer) = 78%
ross-Age) = 69%

Table 5 Subjective Feedback from Age-Peer Tutors and Cross-Age

Concerning P.R., Tutee Reported to Be:- +		Age-Peer Tutors		
		Positive Responses	Total Responses	Proportion Positive
1	Reading More	62	88	70%
2	Reading More Widely	64	85	75%
3	Understanding More	56	81	69%
4	More Confident	60	84	71%
5	More Willing	54	85	64%
6	More Interested	43	82	52%
7	Enjoying More	58	84	69%
8	More Accurate	52	83	63%
9	More Fluent	49	85	58%
10	More Expressive	48	87	55%

+ Questionnaire format offered 2 options: negative/positive

++ None of the differences between groups reached statistical si
X^2, d.f. = 1, probabilities two-tailed. E.g. item 10, p = 0.1

NB: In the 10 projects using Age-Peer Tutor Questionnaires, no
all returned questionnaires (89) had responses to all item

Parallel figures for Cross-Age Tutor Questionnaires were:

Mean percentage positive responses per questionnaire (Age-
Mean percentage positive responses per questionnaire (Cros

Peer Tutors

Cross-Age Peer Tutors			Difference
Positive Responses	Total Responses	Proportion Positive	in Proportions Positive ++
52	68	76%	- 6
50	66	76%	- 1
44	67	66%	+ 3
47	65	72%	- 1
43	65	66%	- 2
39	64	61%	- 9
40	66	61%	+ 8
45	67	67%	- 4
38	65	58%	0
28	66	42%	+13

gnificance
58

ot all participating tutors (99) returned questionnaires, and not
ns (questionnaire return rate 90%).

3, 86, 69, 80%

Peer) = 64%
s-Age) = 62%

An interesting feature of the subjective feedback is that the overall positivity of reponses from parent tutor and child tutee questionnaires correlates positively (0.42, p = 0.00), and correlates positively with gains on reading tests (parent: 0.11, p = 0.00; child = 0.10, p = 0.01). However, positivity of responses on parent and child questionnaires correlates **negatively** with positivity of teacher subjective feedback! (parent: - 0.19, p = 0.00; child: -0.22, p = 0.00).

Conclusion

Parents tended to take a more positive view than class teachers of the reading progress made by children engaged in Paired Reading at home, and this was particularly marked in reading expressiveness, variety of reading, willingness to read and enjoyment in reading. By contrast, peer tutors and parent tutors tended to subjectively evaluate the response of participants in Paired Reading in a very similar way, in an interesting parallel of the "objective" outcomes, except that parent tutors tended to be somewhat more positive about progress in reading fluency and expressiveness.

So far as the tutees are concerned, those tutored by natural parents tended to subjectively evaluate their experiences more positively than those tutored by peers. However, responses on crucial items concerning self-perception of progress in reading and desire to continue using the technique were very similar for both groups. Parent tutees at home found it easier to obtain suitable books than peer tutees who operated in school, but parent tutees felt it was more difficult to find time at home.

Considering same-age peer tutoring and cross-age peer tutoring separately, very little significant difference was noted in the views of the two groups of tutors. However, the feedback from same-age peer tutees tended to be more positive than that from cross-age tutees (and more similar to that from parent tutees), age-peer tutees finding the tutoring process organisationally easier and reporting greater improvements in reading attitude and skill.

The overall positivity of the subjective feedback is most encouraging, with over 90 per cent of tutees and about two-thirds of tutors reporting perceiving improvements in reading skill. More than two-thirds of tutees wished to continue. Attitude improvements were also substantial, although more various.

Discussion and Action Implications

The data cited here yield some interesting conclusions which have implications for action. Firstly, the parent tutor and parent tutee feedback questionnaires have both been used with large numbers of participants, and the averages from these aggregated results are now used within the host LEA for comparison purposes with the subjective feedback results from each new individual project. For these two groups, sufficient data is available to be considered to constitute a crude "norming" exercise. Other workers may wish to use the identical questionnaires to evaluate their own projects, in order to be able to compare results with the aggregates cited above. This may help to indicate particular strengths and weaknesses in the organisation of new projects. It would also enable comparison of subjective feedback between studies using different techniques for parental involvement.

Regarding the finding of lesser positivity from class teachers than from parents, insofar as some of this variation is inexplicable by differences in return rates and questionnaire formats, it may be that this is a reflection of lower activity in and commitment to the reading project on the part of the teachers. Many projects were co-ordinated by teachers other than the regular class-teacher of the participant children, so the feedback from class teachers could in many cases be free of the kind of dissonance-reducing positive "aura" often found in feedback from those who have expended a good deal of time and energy on a project - which the parents certainly had. Beyond this, the class-teachers' perceptions were intended from the beginning as a test of generalisation, and these less positive responses may indicate that progress in reading at home does not automatically generalise to reading in other environments, a finding certainly reported elsewhere (Glynn et al. 1987). The action implication here, as elsewhere, may be that greater involvement of all class-teachers in a project from the outset is desirable, with a view to arranging classroom activities designed to positively promote generalisation of improved reading skills from home to school.

A number of organisational issues have been highlighted by the data. Many teachers still conceptualise peer tutoring primarily on a cross-age basis with tutors of high levels of competence, as reported in much of the US literature, but in fact it is clear from the above that tutees tend to prefer same-age peer tutoring. Although same-age peer tutoring in Paired Reading has been noted to tend to produce lower tutee gains in reading skill on tests than cross-age peer tutoring (Topping 1987b), it does of course provide the double benefit of raising the reading skill of the tutors also, and suffers fewer organisational complexities. The age-peer tutees in the work considered here reported easier access to books and to a suitable place than did cross-age tutees, and of course same-age peer tuition is much less likely to involve pupil movement and disruption of two timetables. The action implication is that teachers are more likely to be successful in operating same-age peer tutoring than cross-age peer tutoring, perhaps particularly with a first venture.

The other major organisational paradox is the indication in the data that children reading at home found it easier to access books than did children reading at school, this proving a particular problem for cross-age tutees. Clearly, project co-ordinators should scrutinise arrangements for easy, reliable, daily access to supplies of a wide variety of reading material in all types of projects extremely carefully, as there may be too ready an assumption that this is unlikely to be problematic in a school-based peer tutor project. On the other hand, children reading at home reported more difficulties in "finding time" than did peer tutees, and the action implication here is that a firm and clear structure for commitment of time needs to be established at the start of a home-based reading project, and discussed further with any families experiencing difficulties through some form of in-built follow-up. This may also be necessary in peer tutor projects of course, particularly those deploying cross-age tutors. Given the greater difficulty in "finding time" expressed by home-based readers, another action implication may be that peer tutoring could most usefully occur in the summer term, when the distractions of the outdoors are at a maximum for children outside of school hours.

Finally, although tutee feedback from age-peer tutoring was much more positive than that from cross-age tutoring, and approximated on some items to the

positivity of feedback from parent tutees, nevertheless there were still some items on which the latter demonstrated better results. Parent tutoring is still seen as the "best" way so far as the tutees are concerned, and this should be considered by those teachers who might see peer tutoring as an "alternative" to parental involvement - one which is perhaps more attractive because it is more observable and therefore controllable. The involvement of natural parents as tutors is not only a powerful vehicle for raising reading attainments and improving attitudes to reading, but many positive spin-off benefits are often reported by schools who have developed such initiatives. A judicious blend of parent and peer tutoring in the context of a coherent "whole school policy" (Topping 1989a) seems likely to maximise the positive feedback all round.

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All projects with which the Project Leader had close contact were rated by him on organisational quality, an indication of the smoothness and consistency of operation of the planned format of the project. Categories were: 1. Very Good, 2. Good, 3. Average, 4. Below Average, and 5. Poor. After rating, projects were found to be normally distributed among these categories. Subsequently considering gains in reading accuracy for each organisational category, findings were much as might be predicted. Projects with "very good" organisation produced significantly better results than all other types of project, and projects with "good" organisation better results than projects with "average" and "below average" organisation.

As previously mentioned, home visiting for support purposes was undertaken in 41 of the 155 data-yielding projects. Some schools visited every child participating in the project, while others visited only those families perceived by the school to particularly need such support. To consider project gains merely in relation to the frequency of home visiting would be unduly simplistic, since there are striking interactions between project gains, frequency of home visiting and the socio-economic status of the catchment area of the school.

An index of socio-economic disadvantage was computed for the catchment area of every school in the Authority using the Home Office SASPAC programme, based on the 1981 census data supplemented by current information on free school meals take-up.

Children in projects evaluated by Reading Accuracy tests came from all social classes, although the highest quartile of ses was markedly under-represented (17%) and the lowest somewhat over-represented (29%). The second quartile of ses (above average) was also over-represented (31%). Children in projects evaluated by Reading Comprehension tests were more likely to be from the second ses quartile (above average - 53%), and this may have skewed the comprehension results, the highest and lowest quartiles being markedly under-represented.

Most projects (73%) did not incorporate home visits. Of those that did (27%), the majority (16%) incorporated at least one visit to every participant, while the minority (11%) incorporated visits only for a few participants.

Despite the disparity in distribution of data yielders across ses categories in reading comprehension, when pre-post gains are ranked according to category of interaction between ses and hvf, there is a high degree of rank correlation between results for reading accuracy and reading comprehension.

There is some inconsistency in the results regarding the pre-post gains of high ses participants receiving home visits, possibly owing to small sample sizes. However, there is a very strong trend for participants of below average ses to yield above average pre-post gains in reading accuracy and (although to a lesser extent) in reading comprehension, with the lowest ses participants doing particularly well. Of the participants receiving no home visits, those of lowest ses show the biggest pre-post gains, and this finding is based on a very large sample size in this cell (n = 322).

Although there is a tendency for participants receiving home visits to yield bigger gains than those receiving none, this tendency is not so strong as the tendency for low ses participants to yield bigger gains than high ses participants. However, even in the lowest ses category, home visits at some frequency increase the pre-post gains in reading accuracy to a statistically

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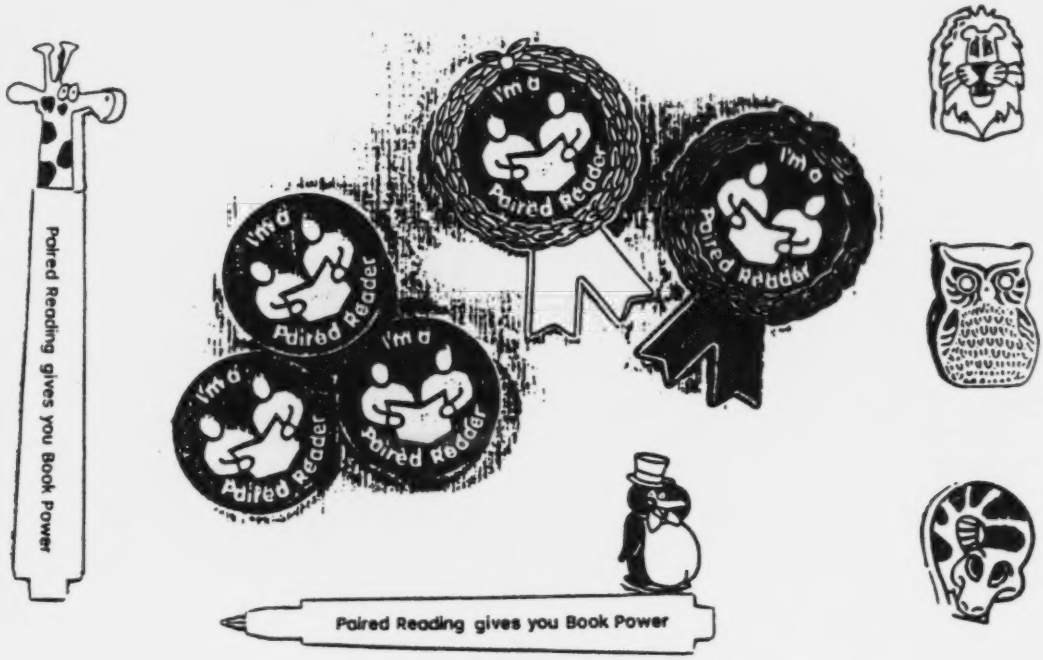
Paired Reading

BADGES & PENS



AVAILABLE FROM THE KIRKLEES PROJECT

C.R.I.S.P. - CLEVELAND READING IN SECONDARY SCHOOLS PROJECT

Mary Greening and Judy Stephenson

SUMMARY

The aim of this pilot project was to devise a reading package suitable for use with pupils within the comprehensive school setting. This would enable teachers to run their own school based projects with minimal help from the support services. Four comprehensive schools in Cleveland County took part in the pilot project which involved third and fourth year pupils acting as cross-age peer tutors for first year pupils who had reading problems. Overall it was found that there was an improvement in the reading accuracy and comprehension skills of the subjects and that attitudes to reading also improved.

INTRODUCTION

There have been several accounts in the literature describing reading projects undertaken with secondary age pupils: Carrick-Smith (1982), Barnett and Alston (1984), Spalding et al. (1984), Cawood and Lee (1985), Free et al. (1985) and Hodgson (1985). The majority of these articles describe the use of the Paired Reading technique, which was devised by Morgan (1976) and described in detail by Morgan and Lyon (1979). The Paired Reading method has proved popular even though "as yet a demonstration that 'Paired Reading' makes a unique contribution to improving the attainments of children with reading difficulty remains to be presented" (Pumfrey, 1986).

Many of the recent initiatives involving Paired Reading have described parental involvement schemes or peer tutoring approaches which have been developed on an 'ad hoc' basis within individual schools. A more extensive use of the Paired Reading method appears to be constrained by the amount of time needed to run projects. An additional problem is the scarcity of support service input which such projects initially require. "To establish the technique for an individual pupil and to monitor it properly is costly in terms of a scarce resource" (Carrick-Smith, 1982). These difficulties have in part been overcome by the Kirklees Paired Reading Project which received Urban Aid Funding and employs a project leader on a half-time basis.

In Cleveland County the emphasis has been on establishing school based 'Shared Reading' projects which have required little if any support service input. "Given the simplicity of the technique and its low requirement for intensive monitoring and follow up this represents a high degree of cost-effectiveness" (Topping 1986). This cost-effectiveness has been achieved by the development of the Shared Reading package consisting of a video tape and teachers' manual. This allows schools to promote and develop their own school based projects. Shared Reading is described in detail by Greening and Spenceley (1984a, b; 1987). As Shared Reading developed on a county-wide basis it became apparent that many secondary school teachers were interested in adopting similar approaches with their pupils who had reading difficulties. Indeed a general criticism of the Shared Reading package was that it was aimed at primary age children and was therefore not really suitable for use with secondary age pupils within the comprehensive school setting.

SETTING UP THE PROJECT

The aim of the C.R.I.S.P. pilot scheme, therefore, was to develop a package suitable for use with these older pupils. It was envisaged that such a package would enable teachers to run their own school based projects. Some funding from the L.E.A. was made available and this enabled Judy Stephenson of the Learning Support Service to devote the equivalent of approximately one day a week to monitor and evaluate the project.

Schools involved in the project

It was decided to run the pilot project in one comprehensive school in each of the four divisions of the county, i.e. Hartlepool, Langbaurgh, Middlesborough and Stockton. All the schools had catchment areas which were economically deprived and therefore experienced considerable social problems. The schools were mixed comprehensives for pupils in the 11-16 age range.

Cross-age peer tutoring

It was decided to run a cross-age peer tutoring project with older pupils acting as tutors. There were several reasons for this:-

1. It was thought that there would be problems with involving some parents in the project. Other authors had reported this difficulty, eg. Crombie and Low (1985).

2. Some adolesent pupils prefer not to read with their parents.

3. The project took place in the Spring Term 1986 when teachers were engaged in sanctions. It was therefore very difficult if not impossible to arrange meetings with parents.

4. Using peer tutoring meant that all the participants were readily available 'on-site'. Reading sessions could therefore take place in school under teacher supervision.

5. Winter (1986) concluded that both tutors and tutees benefit from the experience and increase their reading skills. This was an added bonus for schools.

6. It was decided to use cross-age tutoring rather than same-age tutoring as there is some evidence that this is more effective (Goodlad, 1979).

A major difficulty in organising cross-age peer tutoring projects was the problem of timetabling tutors and tutees to meet together on a daily basis. Schools found that the most suitable time was during the first session in the morning, i.e. during registration time and/or tutorial time. This had the advantage that pupils did not miss any lessons.

Project guidelines

At the start of the project, guidelines were discussed at briefing meetings. It was decided that

1. There should be a maximum of six 'pairs' taking part in each school project.

2. That ideally the project should run for a minimum of four days a week for seven weeks. However because of the problems imposed by the teachers' industrial action it was recognised that there would be occasions when the project would not 'run'.

3. A room should be set aside so that pupils and staff had a regular meeting place for reading sessions.

4. It was agreed that where possible the project should be supervised by two teachers from each school. It was not essential for the two members of staff to be present at every session. It was considered important however, that in the event of one of the teachers being absent from school then the other teacher would be able to substitute.

5. A good supply of suitable books would be readily available.

Tutors

It was decided that the tutors would be 3rd/4th year pupils who had reading ages of 9.5 years and above. Pupils would be screened for suitability to act as tutors. It was important that the tutors were socially mature and thus able to cope with their role and also that they had a good school attendance record and were punctual. Teachers were asked for the names of pupils who had reading difficulties who they considered to be suitable candidates for inclusion in the project. This group of pupils were given details of the project and briefed about the role of the tutors. Volunteers were then called for.

Tutees

It was decided that the tutees would be 1st year pupils who had reading ages of less than 9 years. As this was a pilot project, teachers were advised to exclude pupils who had severe motivational and emotional problems, were poor attenders or were frequently late for school. The terms Reader (tutee) and Listener (tutor) were used with pupils throughout the project.

Reading Method

This consisted of 2 levels: Shadow Reading and Solo Reading.

Shadow Reading

Shadow Reading consists of the Reader and Listener reading together from a book of the Reader's choice. The Listener regulates the tempo of the reading so that the Reader can keep pace. No notice is taken of mistakes or omissions and the emphasis is on enjoying the text.

Solo Reading

Solo Reading consists of the Reader reading aloud to the Listener. When the Reader is unable to read a word the Listener counts slowly and silently to 10 and then supplies the word.

At the beginning of the project it was envisaged that all pairs would start off using Shadow Reading and that they would then use the different levels as

and when appropriate. In practice, some pairs continued using Shadow Reading throughout the project as they found this the most appropriate level. The support given during Shadow Reading meant that they had access to a wider range of books than would have been feasible using Solo Reading. Other Readers, as their confidence and fluency increased, preferred to move on to Solo Reading.

Testing of Pupils

Participating pupils were tested by the authors using the Neale Analysis of Reading Ability. Forms A and B of the test were used on a random basis. Scores were obtained for reading accuracy and comprehension. Tutors and tutees were tested at the beginning of the project and were re-tested when the project had been completed. On re-test the pupils were given a different form of the test to the one they had received when tested at the beginning of the project.

Length of the Project

It was agreed that pupils would read together for 10 minutes a day. The majority of reading sessions took place at the start of morning school and lasted approximately 25 minutes. This included the time that the pupils spent in getting to the room and settling down with reading books, the 10 minutes spent on reading and the completion of the record forms. The project ran for 7 weeks, however the actual number of reading sessions which took place varied from school to school. The maximum was 26 sessions and the minimum was 21 sessions.

RUNNING THE INITIAL PILOT PROJECT

Initial contact with schools was made during the end of the Autumn Term. Four schools expressed a willingness to take part and the guidelines were then circulated. At each school an introductory meeting was held with school staff to discuss the guidelines and to talk abut the project in detail. After the pupils were selected and tested a second meeting was then held to pair pupils together and to demonstrate Shadow Reading. At this meeting the pupils were asked to pair together. Where pupils did not express any preference the teachers suggested suitable pairings. Shadow Reading was then demonstrated by the project supervisors, who role played the parts of Reader and Listener.

Pairs were then asked to practise Shadow Reading for a few minutes. All pairs very quickly learned to read in this way and few problems were encountered. It was decided that Solo Reading would be introduced and demonstrated to pairs as and when required. As this was an initial pilot project, each school was visited on a regular weekly basis by one of the project supervisors with occasional additional visits.

During the project teachers were asked to keep a register of attendance. They were also asked to fill in record sheets on each pair. The pupils were also asked to fill in record sheets giving details of books read and to state the reading level of book they had used.

RESULTS

Pupils' reading accuracy and comprehension was tested immediately before the project started and as soon as the project was completed. A summary of results is given in Tables 1 and 2.

TABLE 1 MEAN READING ACCURACY AGES

Group	Pre-project Mean R.A. in Yrs. & Mths.	Post-project Mean R.A. in Yrs. & Mths.	Mean R.A. Gain in Months	N
TUTEES	8y 6.3m	8y 9.2m	3.90m	22
TUTORS	12y 0.2m	12y 0.7m	1.90m	21

TABLE 2 MEAN READING COMPREHENSION AGES

Group	Pre-project Mean C.A. in Yrs. & Mths.	Post-project Mean C.A. in Yrs. & Mths.	Mean C.A. Gain in Months	N
TUTEES	8y 6.2m	8y 7.9m	3.90m	22
TUTORS	11y 5.7m	11y 9.1m	3.42m	21

Tutees Results

Reading Accuracy

The results varied from no observable gain in reading accuracy in 5 cases to a maximum reading age gain of 14 months. Five pupils (27%) in the sample made reading age gains of 6 months and above. The mean reading accuracy gain made by the tutees was 3.9 months. These results compare favourably with the results reported in other studies which had used similar samples of pupils. It is worth noting that the tutees all had severe and longstanding reading difficulties and had made minimal progress over the years.

Comprehension

The comprehension scores obtained by the tutees were very variable indeed. These varied from no observable gain in 2 cases to a maximum gain of 13 months in 3 cases. Fifteen pupils (68%) of the sample made gains in

comprehension. Four pupils (18%) recorded a slight loss in their comprehension age; this was not significant and could be accounted for by standard error of measurement. In one case a loss of 13 months was recorded and this could not be fully accounted for. It did however have the effect of depressing the mean gain for the sample. The mean comprehension age gain for the sample was 3.9 months.

Tutor Results

Reading Accuracy

Of the tutors assessed at the beginning of the project, 7 had obtained the maximum score when tested for reading accuracy. Some of the others obtained scores which were near the maximum. A total of 9 pupils obtained a maximum score when re-tested at the end of the project. This in effect meant that out of a sample of N=23 the progress of 39% could not be measured. The mean reading age gain recorded was 1.9 months.

Comprehension

Thirteen pupils made gains in comprehension. These ranged from 2 months gain to a maximum gain of 17 months. Five pupils made no observable gain and 3 pupils registered slight comprehension age losses. One pupil made a comprehension age loss of 8 months. The mean comprehension age gain was 3.42 months.

Attendance

The duration of the project was 8 weeks from start to finish, including the half term holiday of one week. There were however, frequent occasions when the project did not run because of sanctions or because of time-tabling difficulties. The total possible attendance varied from school to school from a minimum of 21 sessions to a maximum of 26 sessions. Individual pupils' attendance also varied a great deal. The average attendance of pupils was 19.6 sessions i.e. roughly the equivalent of 5 daily sessions for 4 weeks.

ATTITUDES TO THE PROJECT

Pupils

At the end of the project all the pupils who were re-tested were interviewed and asked what they thought of the project. The majority of the pupils expressed satisfaction with Shadow Reading and those who progressed to Solo Reading commented about this method in positive terms. When asked whether they had a preference for one method over another there was a diversity of opinion. Of the Listeners, some preferred Solo Reading stating that the advantage was that they could correct mistakes. Some preferred Shadowing, believing that this was a more helpful method. The Readers were equally divided in opinion, some preferring Shadow Reading while others preferred Solo Reading. The Listeners had enjoyed helping their partners to read with one exception.

The quality of partnerships varied somewhat, some being very successful and rewarding, others less so. This latter was usually in cases where the

relationship had not developed sufficiently owing to frequently missed sessions because of absence. There was one partnership that failed and this was because it consisted of two fairly strong characters who clashed. All the pupils thought that that the supply of books was varied, interesting and enjoyable.

The great majority of pupils expressed satisfaction with the project. Indeed at one of the schools all the 1st year pupils commented that they thought that the project should have been extended and that the reading sessions should have been longer than 10 minutes. The reaction of the Listeners was more mixed. Two of the Listeners (both from the same school) dropped out of the project before the end. Four other pupils reported that they would not want to take part in another project. All the other pupils stated that they enjoyed being tutors and that they would like to be involved in subsequent projects.

Teachers

The general consensus of opinion among the staff involved in the pilot schools was in favour of the project. Even where no marked improvement was revealed by the test scores, teachers reported that some of the pupils had definitely improved in fluency and confidence. Significantly, this was true for the Listeners as well as for the Readers. In particular, two of the tutors were found to be reading much more expressively in their English lessons. Attitudes to books also improved. Pupils had access to books that they would not otherwise have considered reading.

There remained a number of practical problems in running the scheme. It is essential to have a good supply of suitable books, preferably some new ones. The time-tabling of two different year groups is difficult, and where time was taken occasionally at lunch-time, pupils often resented attending. It is not always easy to have a special room, particularly one where the books can be left on display. When pupils were attending at the beginning of the day, the degree of unpunctuality of some pupils became apparent. Despite these problems, the staff remained enthusiastic, and one school in particular immediately began another project the following term.

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KIRKLEES PAIRED READING PROJECT - SUMMARY OF RESEARCH RESULTS

The Project was funded by an Urban Aid grant, running from November 1983 to March 1989. Its purpose was to help schools and other agencies to guide and support parents in the use of a particular technique (Paired Reading) for improving children's reading at home. Research studies had found this technique to be very effective and also very enjoyable. Paired Reading is effective for children aged 5 to 14 years of all levels of reading ability or disability, irrespective of their intellectual level. Disadvantaged and ethnic minority groups have been found to benefit.

The services offered via the Project to schools included: briefing sessions, planning consultation, training for parents and children, materials for training and evaluation, finance to defray the expenses of teachers making home visits in the evening, and general support and review facilities. Additional services offered to some schools included assistance with home visiting and assessment for evaluation purposes, and the provision of promotional materials.

The project was considered relevant to all 11-16+ high schools and secondary schools, and all primary schools and special schools and units in the LEA, totalling 214 target schools. The Project has been in contact in some way with approximately two-thirds of these, although a lesser number of schools have developed major initiatives, and a yet smaller number have operated schemes which have yielded research data. The project has operated during years of industrial action in the teaching profession and a time of rapid and stressful change in education generally, both of which factors have undoubtedly inhibited dissemination and impaired effectiveness.

As the core work on parental involvement in children's reading was consolidated, the project explored associated areas. These included work with ethnic minorities and the mentally handicapped, the development of peer tutoring (on a cross-age and same-age peer basis), new initiatives in adult literacy, the introduction of reading techniques other than Paired Reading, the support of work on language with younger children, and an extension to other curricular areas such as spelling (using the Cued Spelling technique).

The research results reported in this Summary have been greatly distilled, from a stack of computer output over 2 foot high into 70 A4 tables and thence into this document. Inevitably, much detail has been discarded along the way, and researchers wishing to view the original data are welcome to do so.

Method of Operation

All the projects reported on below deployed the Paired Reading technique, in the relatively "pure" and original form as described in the Kirklees Paired Reading Training Pack. (In other areas, the terms is frequently mis-applied to other kinds of parent involvement activities.) In Kirklees, the Project Leader typically presented a training session in the PR technique for interested staff in a school, then worked closely on a consultative basis with the teachers co-ordinating the organisation of the school's own initiative. All projects featured 'launch' meetings at which parents and children were trained in the technique together, some form of participant self-recording using home-school diary cards, a variety of follow-up by personal contact with the families, and a feedback meeting towards the end of the intensive period of the project, at which teachers, parents and (often) children exchanged

views about their experiences and voiced decisions about continuation. As schools become more experienced, reliance on personal support from the Project headquarters systematically reduced. There was thus considerable homogeneity of activity between schools, enabling the outcome data to be aggregated and treated as a whole for most research purposes.

The data reported here covers the period 1984-7. During this time, 83 schools were known to operate 185 projects. However, only 155 of these projects (from 71 schools) yielded norm-referenced data. Eighteen of these projects were in high schools, 29 in middle schools, 9 in special schools and the others in some form of primary or first school. In comparison to the distribution of such school types in the LEA, middle, junior and special schools were over-represented, with first and infant schools under-represented (perhaps because of greater doubt in such schools about the relevance of the PR technique for children of this age). All projects operated for an initial intensive period during which participants were asked to commit themselves to using the PR technique for a minimum of 5 minutes for 5 days a week. Project intensive periods ranged from 5 to 10 weeks, except in a few special cases, the average length of intensive period being 8.6 weeks. In the 155 projects yielding norm-referenced data, testing of reading was carried out before the start of the intensive period and after it finished, although of course at least some families continued with PR after the intensive period. The time between pre- and post-test averaged 10.7 weeks, ranging from 5 to 13 weeks except in a few special cases. In 37 projects, control or comparison data was collected. In 23 projects, data was collected on the reading progress of the participants in the period prior to involvement in the project, in order that their reading progress could be compared before and during PR. The average pre-project 'baseline' period was 19.2 weeks. In 20 projects, follow-up data was gathered some time after the conclusion of the intensive period of the project. The average follow-up period was 26 weeks (6 months). For further analysis, these results were divided into short term follow-up data (less than or equal to 17 weeks) involving 9 projects, and long term follow-up data (greater than 17 weeks) involving 11 projects.

Pre-post outcome data was collected for 2,370 participating children. The vast majority of children (82.6% of cases where tutor type was recorded) were helped by their parents. Of the participants who were peer tutored, 8.6% were helped by a child of the same age but greater reading ability (same-age peer tutor), while 7% of participants were helped by a cross-age (older) peer tutor. In a very small proportion of cases adult or teacher volunteers carried out PR tutoring in school. These cases were too few to draw many valid conclusions about their relative efficacy.

For approximately 600 participating parent-tutored children, home-school diary record cards were analysed to determine self-reported frequency of reading and total time spent reading, using the PR technique. The average frequency of reading per week was 5.0 times, as requested, but the range was from 0.7 to 7.3. The average total time spent doing PR during the intensive period of projects was 7 hours 13 minutes, with a range from 20 minutes to 36 hours 25 minutes.

Of the 155 data yielding projects, 114 (73.5%) chose not to carry out home visits to support the project. Of the schools who did carry out home visiting, 14 schools (9.0%) carried out less than 1 home visit per child, 14 (9.0%) carried out between 1 and 2 home visits per child, and 13 (8.5%) carried out more than 2 home visits per child during the intensive period of the project.

Outcomes

For the data reported below, the correlation between pre-test scores in reading and the size of gain in score at post-test was low, failing to reach statistical significance for reading accuracy, and amounting to only -0.19 in reading comprehension. "Regression to the mean" is thus barely evident. The inverse relationship between pre-test scores on reading accuracy and long-term follow-up gains was stronger ($r = -0.40$), but while this may be artefactual it may equally imply that weaker readers are more likely to persist longer with Paired Reading, thus gaining longer-term benefits.

The average gain in reading age during the intensive period of projects was 6.9 months in reading accuracy and 9.2 months in reading comprehension. Thus, during the intensive period, children were gaining in reading age at 3.3 times "normal" rates in reading accuracy and 4.4 times normal rates in reading comprehension. (Reading comprehension data based on 690 children on the Neale and New Macmillan tests).

Baseline data was available from 23 projects, for 286 children in reading accuracy and 64 children in reading comprehension. In reading accuracy, children progressed at 1.37 times normal rates prior to the project, but at twice this rate (2.74 times normal) during the project, this difference being highly statistically significant. For reading comprehension, children appeared to progress at well above normal rates (2.24) even during the baseline period, and although this increased during the project period (to 2.82), the difference did not reach statistical significance.

In 37 projects, data from comparison or control groups who were not participating in the project were available. There is little evidence that the 'self-selected non-participant' nature of some "control" groups consistently biased such groups towards disproportionate inclusion of low-attaining children. In reading accuracy the mean gain in reading age for 580 participant children was 7.42 months, while the gain for 446 control children was 4.69 months, this difference being highly statistically significant. In reading comprehension, the mean gain for 170 participant children was 9.90 months of reading age, and the mean gain for 159 control children 6.08 months of reading age, this difference also being highly statistically significant.

At follow up, data was available from 17 parent tutored projects and 3 peer tutored projects. At short-term follow-up (up to 17 weeks, average 9.5 weeks), in 6 parent tutored projects participants were still progressing at 2.46 times 'normal' rates in accuracy ($n = 79$) and 3.01 times 'normal' in comprehension ($n = 54$). At long-term follow-up (over 17 weeks, average 37.5 weeks) in 9 parent tutored projects 140 participants were still progressing at 1.33 times 'normal' rates. There is evidence that the short-term follow-up projects generated unusually high pre-post gains during the intensive period of projects, so the very substantial short-term follow-up gains may not be typical. Nevertheless, the evidence suggests that in parent-tutored projects there are continuing gains during follow-up periods, and certainly no sign of "wash-out" of effects. This latter is confirmed by follow-up results for participant and comparison (control) groups. The findings in this respect for the 3 peer tutor projects yielding follow-up data are less encouraging, and certainly not as good as those for parent-tutored children, but whether there are signs of "wash-out" is more debatable - more research is needed here.

Effect of Background Organisational Factors

A number of factors might affect the success of a project as indicated by pre-post gains on reading tests. In this section, data will be reviewed concerning the impact on outcomes of factors within the school, within the children, within the local community, and within the organisation of the project itself.

There were marked differences in outcomes from different types of schools. In reading accuracy, average gains during the projects ranged from 8.41 months of reading age at First & Nursery schools to 4.37 months for Special Schools. First & Nursery and Middle schools produced the best results, while Infant & Nursery, First & Middle and Special Schools produced the worst results. In reading comprehension, however, Junior & Infant schools performed significantly better than both Middle and High schools, while Special Schools performed relatively better in reading comprehension than in reading accuracy. There was no obvious relationship between outcomes and the age of child served by the school.

No significant relationships between the size of a school in terms of pupil numbers and the outcomes of projects were found for either reading accuracy or reading comprehension. However, relationships were found between the size of gains in reading attainment and a school's experience in operating projects. These were only found for reading comprehension, where there was a significant tendency for results to improve from the first to the second project, be maintained for the third project, tail off for the fourth project back to the level of the first project, and decline even further for the fifth project.

Turning to characteristics of the children themselves, and considering reading accuracy first, there was a small but significant tendency for chronological age to be positively correlated with reading gains, i.e. older children tended to do better. Of course, a gain of 6 months of reading age from a reading age of 7 years is not the same as a gain of 6 months from a reading age of 12 years. Similarly, more retarded children also tended to do better. For reading comprehension, there were no significant relationships between chronological age and reading gains, but again the children who were more retarded in reading comprehension tended to do better. Many practising teachers would expect younger and more able children to do better, but the data contradict both these expectations.

Relationships were found between reading gains and a number of factors inherent in project organisation. The time of year projects operated made a signficant difference. Many teachers regard the spring term as the most favourable for running projects, yet in terms of reading gains outcomes for projects operating in the spring term for both reading accuracy and comprehension. Many teachers regard the summer term as particularly unfavourable, yet the results in reading accuracy for this term were better on aggregate than those for the spring term, although this difference did not reach statistical significance. In reading comprehension, results for the Autumn term were also significantly better than those for the summer term.

In reading accuracy there was a modest but statistically significant correlation between the length of the intensive period of a project and the size of ensuing reading gains. This might be taken to imply that a longer period of practice and application yields bigger gains, but data to be cited later does not support this view. In reading comprehension, there were no significant relationships between gains and the length of intensive period of the project.

significant degree. Home visits have less impact on 'below average' (third quartile) ses participants. The inconsistency in results for 'high' and 'above average' ses groups with 'selective' and 'universal' visiting make it difficult to draw definite conclusions. However, it cannot be assumed that home visits are necessarily any less effective with the upper two quartiles of ses. It seems clear that above average and high ses groups yield below average gains in the absence of any home visits.

Effects of Tutor Type and Sex and Ethnic Origin of Tutee

In reading accuracy, pre-post gains for subjects who were tutored by natural parents, same-age peers, cross-age peers or adult volunteers were not significantly different from each other, but all were significantly better than the results for subjects who were tutored by teacher volunteers, although the numbers in this latter group were very small and the tutees tended to have very low reading attainment. In reading comprehension, natural parent tutors produced significantly higher gains than cross-age peer tutors, but not significantly higher than same-age peer tutors. Otherwise, all types of tutors produced similar pre-post gains, same-age peer and natural parent tutors doing consistently well, although the former tended to work with higher ability tutees.

Comparisons between baseline and project period gains were possible for those subjects who were parent-tutored and same-age peer tutored. Acceleration during the project in reading accuracy was statistically significant for both groups, with the same-age peer tutored group accelerating more than twice as much as the natural parent group. The difference in this acceleration was statistically significant. This comparison was not possible for reading comprehension. A very similar picture is found when participant group project gains are compared with control group gains for parent-tutored and same-age peer tutored children.

At short-term follow-up, continuing gains for parent-tutored children were significantly greater than those for cross-age tutored participants in reading accuracy and comprehension. At long-term follow-up, continuing gains for parent-tutored children were significantly greater than those for same-age peer tutored participants in reading accuracy only. However, numbers followed-up in peer tutor projects were very small.

More boys than girls were involved in the project (54% male, 42% female, 4% unrecorded). In much reading research, girls make better progress, so an analysis of reading gains according to sex of tutee is of interest. However, in these Paired Reading projects, girls started off better than boys in reading accuracy but worse than boys in reading comprehension. Boys made better gains than girls during the intensive period of the project both in reading accuracy and reading comprehension, although these differences did not reach statistical significance. Thus, in accuracy, boys reduced the lead girls had over them, while in comprehension boys extended the lead they already had over the girls. Considering the baseline data, both boys and girls showed acceleration from baseline rates of progress in both reading accuracy and reading comprehension, although this reached statistical significance only for reading accuracy. Girls' gains in reading comprehension were particularly poor. However, none of the differences in acceleration between boys and girls reached statistical significance.

The control group data is more complex when analysed according to sex of tutee. Pre-post gains in reading accuracy are very significantly greater for

the participants than controls for both boys and girls. However, male controls showed much greater gains than female controls, thus reducing the participant/control difference for males. It may be that "contamination" from experimental to control groups is more pronounced with male subjects. In reading comprehension, however, male participants made very significantly greater gains than male controls, and greater gains than female participants, who did not significantly outgain female controls.

No significant differences were evident at short-term or long-term follow-up in reading accuracy or comprehension between male and female tutees. However, in 3 out of 4 follow-up comparisons, girls did better than boys, thereby tending to redress the balance.

During data collection, participants whose families originated from the Indian Subcontinent were coded. Fifty projects in 30 schools included South Asian subjects, and the average number of Asian subjects in each project was 5.

The largest proportion of Asian subjects in any project was 74%. Across all projects, 9.4% of subjects were Asian, compared to an incidence of 15.4% in the background school-child population. This disproportionately low take-up rate from the Asian population may reflect a low rate of offering service to such populations, as well as other factors.

Asian participants started projects attaining less well than white participants to a similar degree in both reading accuracy and comprehension. Considering the reading gains during the intensive period of projects, Asian children performed better than white children in reading accuracy, although this difference did not reach statistical significance. (The "white" category may include a small number of mis-coded Afro-Caribbeans and other races). In reading comprehension, however, Asian children performed significantly worse than white children. Thus Asian participants "caught up" a little in accuracy, but "fell further behind" in comprehension compared to white participants, although even in comprehension still made gains well above 'normal' for the white non-participant population at large. Unfortunately, baseline data was available for too few Asian tutees for a cross-cultural analysis to be viable. Considering differences in pre-post gains between participant and control groups according to ethnic origin of tutee, in reading accuracy white participants gained very significantly more pre-post than control groups. Asian participants gained a little less than white participants, and the Asian control group gained more than the white control group, so the participant-control difference for the Asian comparison just failed to reach statistical significance, this group also being markedly fewer in numbers. Insufficient cross-cultural data was available for reading comprehension to permit valid comparisons, but white participants gained significantly more than control groups. On neither short nor long-term follow-up were statistically significant differences between the two ethnic groups evident. At short-term follow-up, continuing gains were virtually identical between groups, while at long-term follow-up in reading accuracy Asians did better than whites.

Comparison of Different Reading Tests

Early research on the evaluation of Paired Reading, and indeed other parent involvement schemes, has been criticised on account of doubts about the reliability and validity of reading tests used. In the Kirklees Project, a great variety of reading tests were deliberately used, in order that

comparisons could be made between the results they yielded. It is thus possible to ascertain whether the tests which have been most criticised are in fact those which yield most inconsistent and "inflated" results.

Both group and individual reading tests were used, including the Burt Word Recognition, the Daniels and Diack Test 1, the Daniels and Diack Test 12, the GAP, the Holborn, the Neale Analysis, the New Macmillan Reading Analysis, the Primary Reading Test, the Salford, the Schonell Word Recognition, the Widespan and the Young's Cloze Test, as well as a few others which were used on less than 30 subjects.

In some projects, progress was evaluated by two tests in parallel, often one individually-administered test and one group-administered test. However, scores obtained by subjects on the two tests showed very little significant correlation on the whole, even allowing for the small numbers of subjects in some projects. In reading accuracy, the Neale test correlated positively with the Young's Cloze test in one project, and the Widespan test correlated positively with the GAP test in another. The lack of positive correlation between main and secondary tests must cast doubt on the reliability and validity of one, other, or both. Over-reliance on results from a small number of subjects on one particular test is clearly contra-indicated.

The ten most commonly used reading tests can be listed in descending order of liklihood of producing large reading gains during the intensive period of projects: Widespan, Burt, Neale, Daniels and Diack Test 1, Holborn, Daniels and Diack Test 12, Primary Reading Test, Schonell Word Recognition, Salford, New Macmillan Analysis. The average pre-post gains ranged from 9.18 months of reading age for the Widespan to 4.17 months of reading age for the New Macmillan. In general, group reading tests showed greater variability in outcome than individual reading tests. The Widespan group test tended to produce very high mean gain scores but with very great variability, and this may suggest a large "test familiarity" factor. However, group and individual tests are well mixed in this ranked list, and there is little evidence that any particular type of test is more likely to produce larger gains.

In summary, the Widespan yielded erratic and possibly inflated results, and is not recommended. The Schonell, Salford and New Macmillan Tests produced consistently low results, and are not recommended. The Burt, Neale and Daniels and Diack 1 Test produced reasonably stable results which tended to be average or above. The Holborn, Daniels and Diack 12 and Primary Reading Tests produced reasonably stable results which tended to be average or below average. In reading comprehension, only two tests have specific comprehension scales, the Neale and the New Macmillan Analyses. These were very great differences in results between these two, the Macmillan test producing very low scores with great variability.

Subjective Feedback from Project Participants

Gains on reading tests are a very crude index of changes in child attainment, and say little about changes in confidence or attitudes toward reading. At feedback meetings at the end of the intensive period of projects, parents, teachers and children offered rich anecdotal insights into the good and bad aspects of their experiences. Unfortunately, the variety and complexity of such feedback renders it virtually impossible to analyse and summarise.

Therefore many projects also used structured questionnaires to obtain feedback from the parents, children and teachers involved. The parent and teacher questionnaires asked about any changes observed in the reading behaviour of the children at home or in the classroom. The questionnaire for children asked about practical aspects of doing P.R., whether they liked it and whether they thought it made them better readers.

Eighty-five projects used parental feedback questionnaires, and of the 1,466 participating parents, 1,068 returned questionnaires (return rate 73%). Greater confidence in reading in their children was reported by 78% of parents. More than 70% of parents also reported that children were now reading more widely, enjoying reading more, keeping a steadier flow and making fewer mistakes (i.e. were reading more accurately). Between 65% and 70% of parents stated children were now reading more in absolute volume, were understanding books more (i.e. showing better comprehension), and were more willing to read. Sixty two per cent of parents reported that their children were now more interested in reading and were reading with more expression. A significant minority of parents felt their children were now behaving better at home and were happier at home (15%, 19%). Regarding continuation, 38% of families intended to continue P.R. twice weekly, 33% intended to continue 5 times weekly, 22% intended to continue with some reading at home but using a different approach or technique, and 8% intended to stop altogether.

Twenty-nine projects used teacher questionnaires referring to 430 children (return rate 91%). Generally, teacher feedback was less positive than parent feedback, but this may partially be a function of a higher response rate and a slightly different questionnaire structure. Seventy per cent of teachers reported project participants were showing more confidence in reading in class. Greater accuracy in reading had been observed in 67% of children. About two-thirds of participants were reading a greater amount and showing greater fluency in reading. Between 55% of 60% of children showed better reading comprehension and more interest and pleasure in reading. Greater width of reading was demonstrated by 53% of children, more willingness to read by 48% of children, better pacing in reading by 45% of children and greater expressiveness by 38% of children. Thirty-seven per cent of children were reported to be showing better concentration and motivation in class and 14% of children better behaviour generally in class. Although teacher responses were not as positive as parent responses, these results suggest that ordinary class teachers (who in many cases were not heavily involved in project co-ordination or operation) perceived a high degree of generalisation of improved reading skill from the home into the classroom.

Child feedback questionnaires were used by 57 projects, in which 692 children provided feedback (return rate 72%). Some child questionnaires were completed at school, but many were taken home. The child questionnaire responses are the most positive of all, but this partially reflects the structure of the questionnaire, which offered fewer response options. Improved skill at all kinds of reading was reported by 95% of participant children, and 92% reported now liking all reading better. The technique was felt to be "easy to learn to do" by 87% of children, and 83% liked doing it. A wish to continue doing P.R. was reported by 70% of the children, (virtually identical to the continuation options reported by parents), and 90% of the children said they would tell other people about Paired Reading.

The inter-relationships between the three kinds of subjective feedback were then studied, by comparing the overall positivity of the three kinds of

questionnaire. Parent feedback showed a modest but highly statistically significant correlation with child feedback (of the order of 0.4, n = 668). However, teacher feedback correlated negatively with both parent feedback and child feedback on parametric analyses, and appeared completely unrelated on non-parametric analyses.

The positivity of the three kinds of feedback was then related to gains on reading tests. The positivity of both parent feedback and child feedback showed small but statistically significant positive correlations with reading test gains in both reading accuracy and reading comprehension on both parametric and non-parametric analyses. However, the picture was much more mixed for teacher feedback, where for reading accuracy there was a non-significant negative correlation and a significant positive correlation (non-parametric), and for reading comprehension no significant correlations at all.

Breaking this analysis down further according to which reading test was used, it was found that both the Daniels and Diack Test 1 and the Neale Analysis results correlated significantly with parent and teacher subjective perceptions (in the latter case for reading comprehension as well as accuracy), but not significantly with child feedback. The Holborn test correlated positively with teacher subjective perceptions but negatively with parent and child perceptions. The Primary Reading Test correlated positively with teacher perceptions but very little else. Of course, as some teachers were aware of test results before completing questionnaires, there may be some contamination of teachers' subjective perceptions, although it is not clear how this could have occurred with reference to only two tests. Overall, the Daniels and Diack Test 1 and the Neale Analysis appeared to yield the most plausible results, which cohered best with other relevant evaluative measures.

A further comparison was made between parent feedback and teacher feedback on an item by item basis. On every item common to both kinds of feedback questionnaire, a greater proportion of parents than teachers responded positively. For 7 out of 11 items, this difference in response was statistically significant. Thus, in order of descending size of difference, parents were more likely to report their children to have become: more expressive, more wide-ranging readers, more willing to read, showing more enjoyment in reading, showing more understanding, showing more confidence, and showing more fluency. There was no statistically significant difference on the question regarding improved reading accuracy.

The Effect of Practice

It can be argued that any form of extra practice at reading, irrespective of the technique used or kind of support given, will raise reading attainment. Therefore a study was made of the relationship between reading gains and the frequency of reading per week and the total time spent reading during the intensive period of the project. Neither frequency of reading nor total time spent reading related significantly to reading gains in either accuracy or comprehension, except for a very slight relationship between frequency of reading and reading comprehension on a non-parametric analysis only. Thus sheer volume of reading practice would appear to contribute little to the effectivenes of Paired Reading.

This analysis was broken down according to reading test used, for those tests with sufficient numbers in groups to permit valid analysis. For reading accuracy, the Daniels and Diack Test 1 correlated positively with frequency of reading, while the Neale Analysis correlated positively with total reading time. The New Macmillan Analysis showed strong negative correlations with

both reading frequency and total reading time. For reading comprehension, the Neale Analysis correlated positively with both reading frequency and total reading time, while again the New Macmillan Analysis showed strong negative correlations in both cases. There does appear to be some evidence for the effect of sheer practice on the two tests (Neale and Daniels and Diack Test 1) which have been previously noted to yield the most plausible results, which cohere best with other relevant factors.

Peer Tutoring

It has already been noted that no statistically significant differences were found in pre-post gains between parent tutored, same-age peer tutored and cross-age peer tutored subject groups, except in reading comprehension where natural parent tutors produced significantly better gains than cross-age peer tutors. Same-age peer tutors produced greater acceleration from baseline and greater differences from control group scores in reading accuracy than did natural parent tutors. However, parent tutors produced significantly better short-term and long-term follow-up gains than peer tutors.

Appropriately organised peer tutoring has long been known to result in gains for both tutors and tutees, and this was certainly the case in the Kirklees project. The average pre-post gain in months of reading age for tutees was 6.39, while for tutors it was considerably larger at 8.08. This difference, based on data from 15 projects, did not however quite reach statistical significance.

Baseline data was available for 69 tutees in peer tutor projects. During baseline, they progressed at 1.09 times normal rates of gain, but during the intensive period of the project they progressed at 4.08 times normal rates of gain, the difference being highly statistically significant. Unfortunately, relatively little control group data was gathered in peer tutor projects. Only for same-age peer tutoring is control group data available, for relatively small numbers, but this demonstrates a statistically significant difference between the participant group and the control group. This difference is considerably larger than that between parent-tutored participants and their controls, but the latter is more statistically significant owing to the greater number involved.

It was possible to analyse the outcomes of peer tutoring for both tutors and tutees according to the sex combination of the tutorial pair. Male-male combinations yielded above average results for both tutee and tutor. This is an important finding, as most reluctant readers are male. Female-female combinations were good for the tutees but relatively poor for the tutors. Mixed-sex combinations were good for the tutors but relatively poor for the tutees, and this was particularly true for female tutors with male tutees.

Thirteen peer tutor projects used subjective feedback questionnaires similar to those used in parent-tutored projects. Peer tutors completed a questionnaire similar to the parent questionnaire, and peer tutees a questionnaire identical to the child questionnaire. Between 70 and 75% of the peer tutors reported their tutees to be reading more, reading more widely and showing more confidence in reading. More willingness to read and enjoyment in reading was reported in tutees by 65% of tutors, and a similar proportion reported greater accuracy in and understanding of reading. More than half of the tutees were reported to be reading with more expression, showing more interest in reading, and showing greater fluency. Concerning options for continuation, 69% of tutors wished to carry on tutoring, but wished to try a

different curriculum area, like mathematics or spelling. Sixty per cent wished to carry on tutoring, but with a different tutee for a change. Forty seven per cent wished to carry on but with less frequency, while 37% of tutors expressed interest in being tutored themselves by someone better. Tutoring reading in a different way was an option that 34% of tutors wished to explore, while 30% of tutors were happy to continue tutoring in exactly the same way with the same frequency as during the intensive period of the project. Of the peer tutees, 93% reported feeling they were now better at all kinds of reading. Eighty two per cent reported now liking all reading better, and 68% wished to carry on with peer tutored Paired Reading.

Comparisons could be made between the subjective feedback from participants with different kinds of tutor. The feedback from parent tutors and peer tutors about their tutees was very similar in positivity, with parents slightly tending to be more positive. On only two items common to both feed - back questionnaires was there a statistically significant difference, with parents more likely to report their tutees to have increased in fluency and expressiveness. However, the feedback from parent tutees and peer tutees showed many differences. Children reading at home were much less likely to think it easy to find time than children involved in peer tutoring in school, since in the latter environment tutoring times would be pre-scheduled. However, for all other comparisons the parent-tutored participants were more positive in their feedback than the peer-tutored participants. Children reading at home found it very much easier to obtain books than children involved in peer tutoring in school, an indictment of the arrangements for ease of access to library resources within schools. Children reading at home were also significantly more likely to report that it was easy to find a good place, the technique was easy to learn to do, that they liked doing it, that they now liked reading better and that they would tell others about Paired Reading. However, on two crucial items, self-perception of improved skill at reading and desire to continue with Paired Reading, there were no significant differences between groups.

The subjective feedback from the same-age peer and cross-age peer tutorial situations were then analysed separately. Feedback from same-age peer tutors and cross-age peer tutors showed very little significant difference. However, the feedback from same-age peer tutees was more positive than that from cross-age tutees on every feedback item, and half of these differences attained statistical significance. Same-age peer tutees were much more likely to report it was easy to find a good place than were cross-age peer tutees, for whom the physical location of tutoring clearly sometimes presented a problem. Although same-age peer tutees are typically more closely monitored by class teachers than cross-age peer tutees, same-age peer tutees were much more likely to report finding self-recording helpful. Significantly more same-age peer tutees than cross-age peer tutees reported now liking all reading better and feeling more competent at reading skills, but it should be remembered that the positive responses for cross-age peer tutees were still very encouraging. For example, on self-perception of improved skill at reading, same-age peer tutees reported 98% positive and cross-age peer tutees reported 88% positive. Although half of all peer tutees reported difficulty in obtaining suitable books, same-age peer tutees found this significantly easier than did cross-age peer tutees.

Effect Sizes

When combining (or meta-analysing) results from many different projects, as has been done here, it is usual to compute "Effect Size", to give an index of

the overall impact of the work. For this purpose, the effect size indicator promulgated by G V Glass and his associates was utilised. The mean effect size in reading accuracy for 34 control group projects was 0.87, and the mean effect size for reading comprehension for 12 control group projects was 0.77. Effect sizes of this order are described by workers in the field as "large", and are considered equivalent to an "increase in success rate" from 10% to 90%.

A similar effect size approximation formula was then applied to data from all projects, yielding mean effect sizes for reading accuracy of 0.81 and for reading comprehension of 0.92. This indicates that the more statistically valid control group effect size data is not atypically large.

Conclusion

It is clear from the data cited above that the use of the Paired Reading technique with non-professional tutors is a highly effective means of raising attainment in reading skills and improving motivation, confidence and attitude to reading. There can no longer be any doubt that parent involvement and peer tutoring have striking beneficial effects, provided that work is properly organised and co-ordinated and appropriate techniques are utilised. The Kirklees data represents the largest volume of research reported thus far in the United Kingdom (and possibly in the world), and has put into perspective the one or two smaller earlier studies which have failed to find encouraging results.

The profound impact on the reading skills of thousands of children indicated by this data has been achieved at very low cost. The involvement of parents and peers as reading tutors is obviously highly cost-effective. This confirms the findings from the well known Haringey project, which indicated that it was more cost-effective for teachers to devote part of their time to training and supporting non-professionals as tutors, than to devote the whole of their professional time to themselves directly teaching the children. In the future, non-professional tutoring will undoubtedly increasingly extend to other areas of curriculum. However, it will be crucial that appropriate techniques are devised and applied, and that schemes are very well organised.

NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS NEWS

LISTEN ALONG WITH READ ALONG

Readers may already be familiar with the Cambridge "Read Along" series of 25 books for beginning and early readers. The simple stories - fantasy, magic, animals and slapstick fun - have a higher readability story line on each page together with lower readability comments by the characters in the lively illustrations, contained within speech bubbles. The speech bubble words are high frequency words designed to cumulate into a sight vocabulary. At £25 for a starter pack of 25 books together with Teacher's Notes, this series is excellent value. Their usefulness for Paired Reading is obvious.

Now Cambridge have added "Read Along Rhymes", six new rhyming stories in easy-to-read verse, by the same author, Tessa Potter. Also becoming available are "Listen Along" cassettes, containing spoken versions of 16 of the stories from the "Read Along" series. After each story has been read, there is a second version with pauses, giving the child plenty of opportunities for joining in. Also included are "activities" - animal noises, counting games, sound effects and games of "I spy".

THE EFFECT OF UNDERSTANDING MNEMONIC STRATEGIES ON PEER TUTORING

Anne-Marie Barron

The study which forms the basis of this paper is an extension of the work of Paris, Newman and McVey (1982) and its translation into a peer tutoring context. In the Paris, Newman and McVey (1982) study, all children were taught how to label, rehearse and group pictures as well as to self-test their own memories and use blocked recall. Half of the children were shown the strategies and told how to do them; the other half received feedback on the usefulness and appropriateness of the techniques for remembering. The elaborated instructional group performed significantly better on later memory tasks than did the second group.

The current study is extended and set within a peer tutoring context. Paris, Newman and McVey (1982) investigated adult (the experimenter) elaboration versus no elaboration; the study reported here also examines child elaboration of the five mnemonic strategies. Glynn (1985) argues the case that children should be in control of their own learning as far as possible and that this increased control encourages children in their efforts to learn.

The aims of the experiment were to:

(1) Compare how the three conditions (adult elaborated, child elaborated and non-elaborated) affect the tutor's teaching of the strategies to another child.

(2) Compare the performance of tutors on recall tests according to which of the three conditions he or she is in.

(3) Compare the performance of tutees on recall tests according to which of the three conditions his or her tutor is in..

Method

30 boys and 30 girls, aged 7-9 years, participated in the study. A 3 (elaboration : adult, child, none) X 2 (tutoring role : tutor, tutee) X 3 (test position : 1, 2, 3) factorial design was employed.

The materials consisted of 6 decks of 20 cards, one for each of 3 recall testing sessions and 3 for the training/tutoring sessions. The 120 cards were arranged into 30 categories, each category consisted of 4 cards.

Procedure

A recall pre-test consisting of 20 pictures was given to both tutors and tutees. Tutors had the 5 mnemonic skills demonstrated to them according to their condition: adult, child, or non-elaboration. In one condition, the adult elaborated condition, the experimenter explained the rationale behind each of the 5 strategies. In the second, the child elaborated condition, the child was asked to provide his or her own rationale and in the third, the non-elaborated condition, the strategies were demonstrated only; no rationale was required or given. Tutors were tested after the tutor training session and again one day later.

Tutees had the task explained to them by the tutors the next day and were then post-tested following the tutoring session and again one day later.

Tutoring sessions were videotaped and a variety of measures were extracted from the videotapes; these measures included the use of instructions, questions and eye contact.

Results

The finding of Paris, Newman and McVey (1982), that children provided with a rationale for the use of mnemonic strategies recalled significantly more than did those children who had the strategies simply demonstrated to them without elaboration, was replicated and extended. The study reported here demonstrates that both the tutor who has had the strategies elaborated to him or her by the experimenter and his or her tutee benefited from the elaboration and both scored significantly better than tutors and tutees in other groups.

The study illustrates how learning about the rationale of a particular strategy can influence a child's later performance on a memory task and affect the information that he or she gives to another child.

Summary

This research examined how a child's understanding of mnemonic skills affects their subsequent use of them and their tutoring of these strategies to another child. All children were taught five mnemonic strategies: labelling, rehearsal, sorting, self-testing and blocked recall; the method of strategy elaboration was manipulated.

Results suggest that the understanding of a mnemonic skill, rather than simply knowing how to do it, affects a child's later use of that skill and his/her teaching of it in a peer tutoring situation.

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PURPOSEFUL INTERACTION - SKILLS AND STAGES

Keith Topping

Some peer tutoring projects, particularly those deploying high-ability and mature tutors and encompassing a great variety of curricular topics, give tutors very general advice and training about "how to be a good tutor" which is intended to be applicable to many different situations. This is of course much more complex than training tutors in one simple tutoring technique such as Paired Reading. Indeed, even with a simple technique, it can be difficult to ensure tutors conform to it, let alone determine whether the extent to which they conform to it is a major factor in tutorial effectiveness, or whether other subtle social and emotional, attentional and motivational influences are at work.

Since there is relatively little empirical research on what behaviours are characteristic of the most effective peer tutors, the generalised advice given to tutors tends to be drawn from research on the behaviour of professional teachers, from research on social skills training, or just from "common sense" and "experience". To be sure, to have any framework to follow is likely to improve the confidence and motivation of tutors, but training in the general skills of purposeful tutorial interaction which is empirically based on studies of the specifically relevant population would be greatly preferable.

Since we are some considerable way distant from this Utopian situation, it is clearly worth considering other theoretical and empirical work on interaction skills in our attempts to elucidate this fascinating area of study. For instance, the application of the theoretical model of Transactional Analysis (Berne, 1966) to the peer tutoring situation promises to be entertaining as well as stimulating, although extremely difficult to validate empirically in any remotely satisfactory way. Taking a completely different tack, there is a significant body of theoretical and empirical work from the field of business management which is worth considering.

The Huthwaite Research Group, principally inspired by Neil Rackham, has for many years carried out research on the dimensions of behaviour associated with effective management in industry (e.g. Rackham and Morgan, 1977). Applications and extensions of this approach, packaged and labelled "Targeted Management", have been disseminated by Development Dimensions International. Although possessing an inductive theoretical framework and significant empirical support, this work lacks some of the rigour demanded by the most pedantic social scientists, but presents itself as a good deal sounder than much of unsubstantiated jargonizing which passes for "management science" in some quarters. Inevitably, given the enormous variety of contexts for applications of the Huthwaite work, the "dimensions" utilised are broad, and run the risk of becoming somewhat fuzzy at the edges in the search for maximum generalisability.

The work on interactive skills is particularly relevant for our purposes. A framework is offered for the analysis of skills effective in promoting satisfactory outcomes of purposeful meetings, both one-to-one and in groups. For group meetings, skills relevant for the takers of various different roles are analysed and the interaction between different role-takers considered. Drastic simplification and significant modification of the main conclusions of the work by the current author, (hopefully) to increase relevance and utility in the peer tutoring situation, yields the chart presented here. This may prove useful in some respects for advising and

training natural and volunteer parent tutors as well as peer tutors. The intention is that tutors keep the chart in front of them as an aide memoire, at least during their "apprenticeship". And who knows, perhaps even professional teachers might find this simple framework useful - particularly to apply to staff meetings.

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PAIRED READING TRAINING PACK
(Third Edition, 1988)

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PEER TUTORING IN HIGHER EDUCATION

A sixth-form student teaching a fourth former; a postgraduate student teaching a second-year undergraduate; an older person helping teach primary school children; undergraduate students helping teach school children.

All the above are situations where individuals are passing on knowledge or skills to others without being a teacher. Such tutoring schemes are operating in Britain and all over the world. CSV Advisory's Open Doors project[1] is one example. Open Doors recruits and supports older people as volunteers in primary schools. The volunteers take an active role in helping the teacher with curriculum work, with benefits to the volunteers, children and teacher.

A recent conference on Peer Tutoring, at the Imperial College of Science and Technology, London, 3-5 April 1989 (including schemes where children teach children; students teach children; students teach students; and non-professional adults teach other adults and children), brought together people involved in, or interested in, tutoring schemes from Britain and from such far-away places as Hong Kong and New Zealand.

Peer Tutoring – science class at Holland Park Secondary School

This pull-out focuses on peer tutoring, with higher education students from university helping to teach in local primary and secondary schools.

Research has shown that students who act as tutors in schools can be attracted into the teaching profession. Increased use by schools of university, polytechnic and college of higher education students as school tutors in science, engineering and mathematics offers the possibility of attracting more students into teaching in these shortage subjects.

In light of this, the University Grants Committee (UGC) is funding (as part of an initiative to increase the supply of teachers in shortage subjects) a research and development project to disseminate nationally the fruits of the experience of a long-established tutoring scheme based at the Imperial College of Science and Technology. The Pimlico Connection tutoring scheme started in the academic year 1975/6 when 12 third-year Electrical Engineering students, as a group project in their course, investigated the feasibility of undergraduate students of science and engineering acting as tutors. The project was carried out at Pimlico School — hence the name which is now used to describe the tutoring scheme as a whole.

The project, 'Students as School Tutors in Science, Engineering and Mathematics' (funded from 1 September 1987 to 31 August 1989), has the following objectives:

1. to disseminate the research findings of the Pimlico Connection and the principles of good practice developed in it
2. to build upon the scheme
3. to establish similar schemes linking schools with other higher education establishments.

The Peer Tutoring conference was the focus of the dissemination process. In addition, the findings of the past 13 years of operation of the Pimlico Connection have been reviewed and pulled together into a book, *Peer Tutoring: A Guide to Learning by Teaching*,[2] which examines the benefits of peer tutoring and offers practical suggestions on how to set up similar schemes.

Under the same UGC initiative, three universities have been awarded funding (from the academic year 1987/8) to establish tutoring schemes based on the Pimlico Connection. These are: Cambridge, East Anglia and Warwick universities. Two of these — Cambridge STIMULUS tutoring scheme and East Anglia's TASTER scheme — are briefly outlined later. First, there is more information on the Pimlico Connection — on the logistics of the scheme and a summary of the results of the evaluation questionnaires given out each year to pupils, students and teachers. For further information on any of these schemes and Peer Tutoring generally, contact any of the scheme co-ordinators given in this pull-out.

PURPOSEFUL INTERACTION - SKILLS AND STAGES

INTERACTION STAGES			
1 OPENING	2 CLARIFYING	3 GENERATING	4 CLOSING
review purpose	seek information	seek suggestions	summarize conclusions
review importance	give information	develop suggestions	agree follow-up
	summarize information	make suggestions	

INTERACTION SKILLS

1 Disclose Yourself

2 Accept Feelings

3 Acknowledge Difficulties

4 Show Confidence

5 Praise - Specific and Sincere

6 Check Understanding

...St Clement & St James Primary School

PIMLICO CONNECTION

(Based on: *Peer Tutoring: A Guide to Learning by Teaching)*

Up to September 1988, some 750 students have helped teach 8,000 pupils, in local secondary and primary schools, Maths, Science and Craft Design Technology (CDT), building up to a total of 17,000 hours of instruction.

In 1980, the Pimlico Connection was established as a society within the Imperial College student union: much of the administration (recruiting tutors, co-ordinating activities in the schools with the teachers, and collecting and sorting information for the annual report, etc) is now undertaken by students. The scheme is administered overall by a member of the academic staff.

Students visit schools weekly for 15 weeks each academic year (on Wednesday afternoons which are normally kept free from college classes). They help in the classroom in various ways. Some teachers ask them to work with one or two individuals who are disruptive in class, or with gifted pupils who will benefit from extension work; others ask students to work with a particular group of children on practical work — this may be the same group each week or a different one. Others may prefer students to wander around the classroom answering queries as they arise.

Students attend one-day training sessions at the beginning of term. The object of these sessions is to prepare students for the experience of being back in school. It also includes simulations of the learning experience of being a tutee and specific advice on being a tutor. Teachers from the schools involved in the scheme have attended training sessions to give brief descriptions of the schemes used in their schools, usually bringing along a selection of material with which the pupils will be working. During the 15 weeks of tutoring, lunchtime meetings are held to cover any problems that arise whilst the students are in school.

As the scheme has developed, spreading to more subjects and more schools, for each subject area in each school one student (designated co-ordinator) has taken responsibility for week-to-week administration, arranging meetings between teachers and students, reassigning students if circumstances require it, and advising students, in advance when possible, of any disruptions to tutoring arrangements. These co-ordinators are usually students who have already been involved in tutoring for one year and are familiar with the logistics of the scheme.

Evaluation

In each year of the scheme, information has been gathered from pupils, students and teachers through questionnaires, which have been written up in a series of reports (see Goodlad 1979, 1980, 1981, 1982b, 1983, 1984, 1985; Berry 1986, 1987, 1988). These reports provide a record for students of what they have done and serve as documents to be used in schools coming into the scheme for the first time.

This, and other, research has indicated that there are usually three major benefits of such tutoring schemes:

- pupils generally benefit from the extra attention provided by the presence of tutoring help in addition to their teacher
- students benefit intellectually and socially from participation
- teachers usually benefit from the extra help, partly through a reduction in disciplinary problems, partly through being able to arrange more time with individuals and groups.

The questionnaires consist of open-ended and multiple-choice questions. The open-ended questions are based around:

1. The thing I liked best...
2. The thing I liked least...
3. Tutoring would be better if...
4. Other comments...

Each set of questions is appropriately worded according to whether they are for the pupils, students or teachers.

Teachers and pupils are asked to fill in multiple-choice questions. Pupils are asked to indicate whether lessons with tutors were:

1. more interesting/less interesting/about the same
2. easier to follow/harder to follow/about the same as usual
3. more enjoyable/less enjoyable/about the same as usual;

and whether with tutors they thought they:

4. learned more/learned less/learned about the same as usual.

Teachers are asked to indicate whether, with tutors, lessons were:

1. more enjoyable/less enjoyable/about the same as usual
2. easier to handle/more difficult to handle/about the same as usual.

In addition, teachers are asked whether, in their opinion, pupils seemed to learn:

3. more than usual/less than usual/about as much as usual with tutors present as without tutors.

RECIPROCAL PEER TUTORED CUED SPELLING WITH TEN YEAR OLDS

Marion Brierley, Pamela Hutchinson, Keith Topping and Cynthia Walker

The relatively new technique of Cued Spelling is beginning to accumulate a significant literature. The publication of the C. S. Training Pack in 1988 (Topping, Oxley and Scoble) encouraged a number of teachers to try out and further develop this approach to spelling, a curriculum area which many teachers find difficult to deal with imaginatively. The use of Cued Spelling in the adult literacy field, deploying spouses, children, friends and neighbours to help adults on a frequent and regular basis at home, has been described by Scoble (1988). The use of the technique in a peer tutoring context with seven to nine year olds has been reported by Oxley and Topping (1989). Further reports of both these initiatives will be found in the 1989 issue of "Paired Learning".

Oxley's project involved the pairing of nine year olds as tutors with seven and eight year olds as tutees throughout, utilising the most common format for matching pairs which is designed to ensure a consistent differential in ability in each pair. Also, only part of one class participated, on a voluntary basis. In the project reported below, all pupils in three classes in the first year of a Middle School participated. Furthermore, pairings were established on the basis of both members being of approximately similar spelling ability, and the roles of tutor and tutee were rotated within the pair on a weekly basis.

Context

The Middle School operating this project contained approximately 350 pupils in total, aged between 9 and 13 years. Although the catchment area was a little above average in socio-economic status when reduced to a single index, in fact the surroundings of the school were very mixed socially. There was some local feeling that the catchment area was divided into a "working class" sector and a distinctly "middle class" area. Of course, peer tutoring particularly lends itself to the development of social relationships across such traditional boundaries, and it was thought that this could constitute some serendipitous secondary spin-off from the project.

The team of first year teachers had worked together for some time, and had developed the practice of operating same-age peer tutored Paired Reading in all first year classes for successive intakes of children. They therefore felt relatively confident in extending peer tutoring on a large scale to the new curriculum area of spelling. The intake year for the project was not characterised by particularly high levels of maturity. There were 25 children in each of the three classes and the sex balance in each was approximately 50-50.

Procedure

All class members were to participate. Each teacher matched up pairs of children of approximately similar spelling ability, from observation and any spelling tests used previously in class. Reciprocal peer tutoring was to operate, with a change of roles each week. Thus, during the six weeks duration of the project, each child would be tutor for three of the weeks and tutee for another three of the weeks. Pre-existing relationships between children were accommodated up to a point. Although the general Cued Spelling

principle that the tutee chooses the words was to apply, the children were given strong encouragement to choose about half of the words per session from error words which they had identified in their own free writing or other school work. The other half could be chosen purely on the basis of high interest level and intrinsic fascination. When operating as tutees, children were encouraged to "collect" words to use in their C. S. sessions during the course of the week's activities.

Of course, as neither child in each pair was superior in spelling capabilities, a pair could never take for granted that either of them knew how to spell a word correctly. Thus all words chosen were referred to the dictionary by the tutee when copying down the "master version" of any spelling. Thus dictionary use was automatically increased, although this did necessitate the ready supply of many dictionaires. No spare tutors or tutees were nominated as "supply" participants. Where pairings were broken by the absence of one child, some shuffling across the three classrooms occurred, so that everyone had at least a temporary partner.

Three Cued Spelling sessions were scheduled in class time each week, from 10.10 am to 10.35 am on Monday, Wednesday and Friday. A separate Mastery Review session was scheduled for each Friday afternoon. The Cued Spelling took place in the ordinary classroom, although it was possible for some children to overspill into a shared area. The class teachers were aware of the dangers of clutter and distraction if table usage was not reasonably well organised.

Initial training was carried out in one group meeting. All 75 children gathered in a shared area to experience a talk by the third author on the Cued Spelling technique, be introduced to the flow chart of the steps in the technique (which they then kept for future reference) and watch a demonstration on video by children from a previous project. The children then returned to their classrooms to practice the technique on a few words which they had been asked to pre-choose for the purpose, rotating roles as tutor and tutee within the one practice session. During this practice, all four adults involved circulated to monitor performance and give further advice and tuition where necessary. In one class, the usual class teacher was unfortunately away ill, and the supply teacher became rather bemused in coping with this novel experience. However, practice performance in the other two classes was generally of a fairly good standard.

During the ensuing six weeks, the class teachers constantly circulated during the sessions to check technique and make themselves available to children to help solve any problems that arose. Children asked for help quite readily on the whole. The Cued Spelling Diaries provided a continuous record which the class teachers could easily scrutinise. The current tutor was encouraged to write words of praise in the "comment" section of the diary and "Dictionaries of Praise" were available to the children in every classroom, in order to enrich their vocabulary of praise. In every classroom, some children were keen to think up idiosyncratic and whimsical mnemonics for particular target words, and they were encouraged to write these up and illustrate them on a class display board. Halfway through the project, the third author visited the school to observe a session in operation. The majority of children were conforming well to technique and referring to the flow chart. The sessions had become more routinised and lacked the sparkle of initial novelty, but the children still displayed considerable enthusiasm. The words chosen were felt by the class teachers to be fairly utilitarian on the whole, and at least half

were selected from current class work of various sorts. The display boards were filling up with obscure mnemonic devices, including witty acronyms, but the most favoured Cueing strategy was actually to chunk words into managable segments, albeit often in a highly individual way which bore little relationship to standard ideas of syllabification. There were difficulties in relationships between a few of the pairs, who had not proved able to work very well together, but of course one of the perils of year-wide peer tutoring is that the options for altering tutorial pairings are limited when 95% of pairs are getting on well together. Generally, master versions of words were being copied into Cued Spelling diaries accurately, and there was evidence of consistent reference to dictionaries for this purpose.

Evaluation

At the end of the six weeks, each child completed a Mega-Mastery Review of all the words they had covered in their Cued Spelling sessions in their capacity as tutee, and were awarded a score of so many correct out of however many attempted. Some children had attempted far more words within the given time available than others. This overall Review was intended to be a criterion-referenced test of how well the tutees had mastered and retained the spelling of the target words they had chosen. However, it was also important to know whether their Cued Spelling experiences had made them better spellers in general, i.e. whether they had developed awareness, motivation, confidence and skills which could be demonstrated to generalise to new words, which had not specifically been the subject of the C. S. procedure. Therefore, all participants were administered, on a group basis, the Daniels and Diack Graded Spelling Test (Daniels and Diack, 1979). In addition, all participants completed a questionnaire devised to solicit their views on their C. S. experiences.

Naturally, as all children had equally been both tutors and tutees, it was not possible to compare the gains of the tutors to the gains of tutees, as is common in more traditional peer tutoring experiments. At the end of the project, all participants were given "Ace Speller" stickers with which to decorate their person or personal possessions. Of the 75 children participating, 8 were absent for one or both testings. A further 7 children had a maximum score on the test at both testings and their results were discarded, as they were clearly incapable of any improvement. Thus 60 children yielded complete and valid results on the norm-referenced test. Of these 60, 16 had the maximum score at post-test, so experimental effects may be underestimated by the ceiling effect of the test. However, it should also be noted that the structure of the Daniels and Diack Graded Spelling Test is such that it is not very discriminatory above Spelling Ages of ten years. Above this level, a small increase in raw score can produce quite a large increase in Spelling Age.

At post-test, 4 of the 60 children had a lower Spelling Age, 8 had the same Spelling Age and 48 had a higher Spelling Age. The best gain in Spelling Age during the 47 days of the inter-test period was 2.1 years. The average gain was 0.65 years of Spelling Age, ranging from an average of 0.47 years in one class to 0.7 years in another. Thus on average, during the Cued Spelling project, the children progressed in generalised spelling skills at over 5 times "normal rates", if a gain of one month in Spelling Age per month of chronological time passed is construed as normal.

The children's performance on the final Mastery Review of target words was equally encouraging. Seventy children completed the Review. The mean number of words correct was 27 out of a mean number of words attempted of 34,

yielding a mean percentage success rate of 80%. The highest number of correct spellings at final Mastery Review was 54 and the highest percentage success rate was 100% (32/32). There are problems in expressing Mastery Review scores in summary form, since neither percentage correct nor number correct gives an adequate overview of performance in a situation where different children were attempting different numbers of target words with various levels of success. Given this, the degree of correlation between Spelling Ages and Mastery Review scores is difficult to calculate meaningfully. However, visual inspection of the data suggests there is little evidence of a strong correlation between these two outcome measures, no matter how the Mastery Review scores might be expressed.

The subjective feedback from the participants on the questionnaire was equally interesting. Questionnaires were returned by 68 of the 75 participating pupils. There was considerable variation between classes on some items of the feedback questionnaire. However, overall 90% of children felt that C. S. was easy to learn to do, and only slightly fewer felt it was easy to find a good time and a good place. However, only 53% of children found it easy to think of good Cues and only 38% of children found it easy to think of good target words. Nevertheless, the children felt that their Cued Spelling experiences had been effective. Eighty four percent reported feeling happier about spelling now, and 69% felt that they did better at spelling tests. Only a slightly smaller proportion (65%) reported that their spelling was now better in the course of spontaneous free writing and 85% felt they were more capable of putting any spelling mistakes right by themselves (i.e. self-correction). Sixty-six percent of participants reported liking doing Cued Spelling and 90% said they would tell others about their experiences. Only 40% felt that their helper gave them enough praise.

There were considerable variations in responses from different classes. It was evident that the class which produced the best norm-referenced spelling test results also produced by far the most positive responses on the feedback questionnaire. In this class 65% of children found it easy to think of good words and good Cues, 87% felt they did better at spelling tests and 74% liked Cued Spelling. Even more striking were differences between classes in wishes about continuation. In the "most enthusiastic" class, 39% of children wished to carry on doing Cued Spelling twice a week, another 39% wished to carry on doing Cued Spelling five times a week, and 22% wished to carry on with spelling work but in a different way. However, the averages for all three classes were: 18% wished to stop, 34% wished to go on with C. S. twice a week, 13% wished to go on with C. S. five times a week and 35% wished to do spelling in a different way.

Conclusion

This project demonstrated the feasibility of operating Cued Spelling on a reciprocal same-age peer tutored basis across three classes with a large number of children. On average, the children involved retained 80% of the target words at post-project Review and demonstrated acceleration at over 5 times normal rates on a standardised spelling test which covered altogether different words. The vast majority of the children found Cued Spelling easy to do and reported that it helped them develop a more positive attitude to spelling. Two thirds of the children felt their spelling performance had improve, and an even larger number reported they now self-corrected more readily. These results are most encouraging for those schools who might wish to deploy Cued Spelling on a mixed-ability basis across whole year groups with large numbers of children. High Schools (particularly English departments) are beginning to find this approach highly attractive.

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COMMUNITY RELEVANCE TO THE CURRICULUM

Community involvement is an increasingly important aspect of the secondary school curriculum. Many GCSE syllabuses, TVEI, CPVE and PSE modules have community components. This shift of emphasis means that many teachers and students need to develop new skills and approaches to the curriculum.

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CUED SPELLING IN ADULT LITERACY IN KIRKLEES

Ros Harrison

Two of the students in my weekly A.B.E. class joined the recent Cued Spelling project. John made excellent progress, I believe due to the support of his wife (the tutor) and the regularity of the Cued Spelling sessions they undertook. Helen did not do quite so well, but had a much bigger spelling problem. She could not accurately identify sounds in words could not remember and use the phonic blends, and had no visual memory for words. I believe that Cued Spelling is probably the only way in which she can be helped. She is doing it with her daughter as tutor which has not proved entirely successful.

Instead of following wholly individualised programmes of work in the class, I have been teaching most of my students on a group basis - the first time ever - because we were preparing for the A.E.B. Basic English Exam. All my students identified spelling as their biggest problem, so I suggested that after the exam, we spend some time on a Wednesday evening doing Cued Spelling. This was well received. Initially I went through the 10 Steps on the board and talked about WHY do it like this. I paired my two 'expert' Cued Spellers from the home-based project (Helen and John) up with people who hadn't Cued before. Using this method, we soon gave everybody the 1-1 experience of Cued Spelling. Students thought it was helpful and I encouraged them to do it at home. Actually ensuring that it was carried through at home was more difficult! The spellings the Adult Literacy group uses for C.S. are directly related to the work they are doing in the class. I have also used words related to the world of employment: for example Helen wrote her 'work' words down in a small book and took it to work with her. The group intends to continue Cued Spelling and I shall continue to encourage students to do it at home as well.

The format used for training these A.B.E. Cued Spellers in the initial group project largely followed that outlined in the Cued Spelling Training Pack. Five of the group participants returned questionnaires on their experiences. All said it was hard to find time to do CS at home, even though they liked doing it and all but one said it was easy to learn to do. Two said it was hard to find good words, but four said it was hard to find good Cues. However, all but one felt they now spelt better and corrected their own mistakes more, and were happy to tell other people about Cued Spelling. Some of the participants wrote of their experiences in a Special Edition of the local A.B.E. magazine: "Words from Dewsbury", which is available from the Paired Learning Project or the Victoria Centre.

I have also been doing Cued Spelling at home with my daughter - aged 10. I believe she has a spelling problem due to a lack of phonic teaching, although her teachers don't agree she has a problem. Lucy has really enjoyed doing spellings by this method. She uses spellings she has misspelt in project work, which the school asks children to undertake partially at home.

Ros Harrison may be contacted at the North Kirklees Adult Literacy Centre, Victoria Centre, Wellington Road, Dewsbury, West Yorkshire WF13 1NE, telephone Dewsbury 465151 extension 240.

CROSS-CURRICULAR SAME-AGE PEER TUTORING AT DEIGHTON HIGH SCHOOL

Alida Sunderland

Deighton High School is a small school serving an extremely disadvantaged catchment area, but with a good staffing ratio. Concern about the large numbers of children entering the first year with severe attainment and social skills deficits led to a radical reappraisal of the structure of the first year curriculum. (Over 70% of children had a reading age below their chronological age, and 16% had a reading age of 7 years or below). It was decided that for one full hour each day, first year pupils would be principally taught by their form teachers, with additional in-class support from Special Needs and Section II teachers. This hour was scheduled to take place in the morning, when pupils were still relatively fresh. The curriculum content was to be Integrated Basic Skills and Study Skills - areas in which many pupils were deficient.

For the first half of each "Skills" hour, the majority of pupils would participate in a cross-curricular rolling programme of peer tutoring, under the "Paired Learning" rubric. In the Autumn term, same-age tutorial pairings based on parallel matching (i.e. maintaining a consistent ability differential in the pair) would be involved in peer tutored Paired Reading. After the half-term holiday, partners would be changed round to introduce variety and widen the social benefits. In the Spring Term, the first half-term would be devoted to Cued Spelling, on a reciprocal peer tutored basis, in pairs of equal spelling ability with tutorial roles rotating on a weekly basis. In the second half of the Spring term, a reciprocal peer tutored creative writing programme would be instigated, based on the "peer editing" work reported in the American literature. In the Summer term, a parallel matched peer tutoring programme based on mathematical games would operate in the first half and in the second half of the term reciprocal tutoring based on Language games (particularly the language of Maths) would run. It was anticipated that adult volunteers from the community would be involved in supporting these activities, as well as professional staff.

While peer tutoring was operating for the majority of pupils, the weakest would be withdrawn into small groups for highly specialist inputs: some into a direct instruction Corrective Reading programme group, some for one-to-one Precision Teaching based on the Datapac programmes in reading, writing, spelling and maths, and some for multi-sensory teaching using Hickey methods as approved by the Dyslexia Association.

For all children, the second half of the "Skills" hour would be based on cross-curricular topic work. The focus of topic work was initially to be the children's own experience, broadening into a consideration of the environment experienced by other people, drawing out the implications for self-esteem and social skills along the way, while developing basic communication and study skills in a purposeful and relevant context.

This approach represents a considerable departure from traditional high school patterns of organisation, which tend to be governed by the intricacies of the timetable rather than educational objectives. However, the staff at Deighton High have expressed great enthusiasm about the new structure, and many wished to start immediately! Of particular interest to readers will be the way peer tutoring on a same-age basis but in varying pair matching formats has been built in to five different curricular areas during the course of a whole academic year.

Alida Sunderland may be contacted at Deighton High School, Deighton Road, Huddersfield HD2 1JP, telephone 0484 521386.

Kirklees Metropolitan Council

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D T Hiles BA

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BEYOND PAIRED READING

Kirklees is known internationally for its pioneering work using the technique of Paired Reading to help parents and other non-professionals accelerate children's reading skills.

The Education Committee has approved the continuation and extension of the Paired Reading Project as follows:

(1) Application of similar methods to all basic skill areas, including Spelling, Mathematics, Oral Language and Writing.

(2) Application of a wider variety of techniques and approaches.

(3) Availability of advice and support concerning the involvement of parents in other aspects of school life.

(4) Development of peer tutoring, to both basic skills and more sophisticated curricular areas.

(5) Application of similar methods in Adult Basic Education, with a view to developing Family Literacy and Numeracy projects.

Given this broader remit, the Committee approved renaming the Project:-

THE PAIRED LEARNING PROJECT

SERVICES AVAILABLE

BRIEFING	about methods for teachers, with video and handouts, at lunchtime, after school or as INSET sessions.
PLANNING	consultation service to help teachers successfully organise a project.
TRAINING	for children and parents (or other helpers), via talks, handouts, demonstration and guided practice.
MATERIALS	a wide range of practical materials for parents, children and teachers, all free of charge or on loan.
FINANCE	to compensate teachers who may work extra-contract hours in connection with a project, and defray their travelling expenses.
LIAISON	with other agencies who might be helpful e.g. Children's Library Services.
SUPPORT & REVIEW	continuing problem-solving consultation for teachers co-ordinating projects.
EVALUATION	advice and materials can be provided, and help with staff time for evaluative testing is sometimes available.
OTHER SUPPORT SERVICES	as requested, varying from time to time. If in doubt, ask!
CONTACT	Keith Topping, Project Leader

PARENTAL INVOLVEMENT IN MATHEMATICS

Practical support is now available for schools wishing to develop parental involvement in mathematics, through the

Paired Learning Project

MATERIALS AVAILABLE

MATHS GAMES KITS
available on loan for a school's first project, 40 games divided into 6 conceptual categories.

ORGANISATION CHECKLIST
to help teachers setting up and co-ordinating a project.

PARENT LEAFLET
giving brief, simple advice about the project.

HOME-SCHOOL DIARY AND LANGUAGE CARDS
to keep parent, teacher and child informed and motivated, and prompt mathematical language relevant to the 6 conceptual categories.

EVALUATION QUESTIONNAIRE
for parents to give their views, comments and suggestions.

BADGES: "Maths Magician"
insignia of 'belonging' to the 'Maths Magic' club.

PARENT BOOKLET: Hip Pocket Maths Games
available to give to parents to keep at project completion, with further ideas and suggestions.

PARENT LIBRARY
available on loan for a school's first project, a small collection of selected yet further reading and ideas.

PROJECT HANDBOOK
available free to Kirklees Schools linked with the Paired Learning Project, £3.00 otherwise.

At the time of writing, the majority of materials available are relevant to **INFANT** aged children. However, similar materials are being collated for use with Junior aged children, and then for High School children. The High School games are likely to lend themselves to **PEER TUTORING** applications, and support will be available from the **PAIRED LEARNING PROJECT** to develop **PEER TUTOR MATHS GAMES PROJECTS.** A similar approach can also be extended downwards to pre-school and nursery children on request. It is also intended to produce a promotional and demonstrational video which will be available to schools.

As with Paired Reading, personal support is also available - preliminary INSET and briefing sessions for teachers, planning consultation service to ensure fail-safe project organisation, outside help with launch meetings for children and/or parents, continuing review and problem-solving support, advice and materials for evaluation, and so on. If in doubt, ask!

CONTACT
Keith Topping, Project Leader, Oastler Centre, Huddersfield 422133 Ext. 3915.

PAIRED READING
IN GUJERATI, URDU & ENGLISH
— A VIDEO

A video has been produced at Hyrstmount Junior School which should be especially useful for schools with parents of South Asian origin.

Parents are greeted in English, Gujerati and Urdu. Then a white family (boy and mother) demonstrate Reading Together, and then demonstrate signalling (by a nudge) for Reading Alone. Then there is a similar demonstration from Sanjida and her elder sister Shaheda.

The use of Paired Reading to teach children to read their mother tongue is then demonstrated by Sanjida and Harun. First Harun reads the Gujerati, then the Pair read it together, and finally Sanjida reads the English version - in a dual-langage book.

The next pair - mother and son - also work from a dual-language Gujerati text - harder this time. First they use Paired Reading on the English version, with Ibrahim signalling to read quite a lot on his own. Then they tackle the Gujerati equivalent, and here Ibrahim needs the support of Reading Together all the time.

Then Azra, who can read some Urdu, uses Paired Reading with her helper Rashida on a book written in Urdu and English. Azra can read some Urdu (which they try first) on her own, but where there are difficulties Rashida joins in Reading Together. Then they talk about the story, and Azra receives a lot of praise. Azra reads the English version all by herself. Then the Pair choose a book all in English (Dahl's "The Twits") and do Paired Reading in just one language, with Azra nudging for Reading Alone. Finally Rashida and Azra bid viewers farewell.

The Paired Reading technique demonstrated is not always perfect. Some helpers forget to praise and to discuss the book, for instance. However, there is some voice-over commentary to remind viewers of "points to remember". Thus the video could be viewed by families at home and, together with written information and guidance, could form an alternative to attending a "training" meeting in school for those unable to attend.

The video is available for loan free of charge to Kirklees Schools. Enquirers outside of Kirklees are able to purchase it at the same price as the standard English-only Paired Reading Training Video. It is strongly recommended that the paper materials from the Paired Reading Training Pack are acquired together with the video, since it is not intended as a stand-alone open learning medium.

Kirklees Metropolitan Council

PAIRED LEARNING PROJECT

The Oastler Centre
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Huddersfield HD1 2UA 160

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AND 'PAIRED MATHS'
AND NOW

PAIRED WRITING

WATCH THE PRESS FOR DETAILS

WITH APPLICATIONS IN FOREIGN LANGUAGE COMPOSITION TOO!

Open Doors

"Open Doors" is a practical guide to setting up and running a project to encourage and support older people as volunteers in primary schools. Aimed at both practitioners and policy makers, it sets out how you can make a project work and why it is important for this work to happen.

CSV,
237 Pentonville Road,
London N1 9NJ

The guide includes:

- Some general principles for the work
- How to identify schools to work with
- Working with teachers
- Recruiting volunteers
- Introducing volunteers to schools
- Activities in schools
- Managing the project
- Benefits of the work

Price £2.00 plus 30p post and packing. 16.

THE PEER TUTORING CONSORTIUM

Subsequent to the highly successful conference on Peer Tutoring held at Imperial College, London in April, a number of further initiatives are planned.

One of these is the production of a promotional video, useful for awareness-raising, public relations and initial in-service training. This would briefly cover the scope, variety, input costs and positive effects of peer tutoring.

Assuming the video arouses initial interest, potential "consumers" are expected to ask "What do we do next"? To respond to this need, two further initiatives are planned.

It is intended to publish a "Register of Peer Tutoring Resource Materials". This would constitute a regularly updated listing of practical manuals and materials in the area, suitable for relatively easy and immediate use, primarily by teachers. Texts, videos, worksheets and other types of item which help answer the questions "How do we do it"? and "What do we do it with"? would be included.

Secondly, a "Register of Peer Tutoring In-Service Providers" is to be established on a similar basis. This would list resource people throughout the U.K. able to offer interactive in-service sessions on some aspects of peer tutoring. Details of areas of special expertise, availability and cost would be included.

Readers wishing to make a contribution to either Register should contact Keith Topping for copies of the requisite forms.

It is also hoped to produce a "Peer Tutoring Newsletter", of a brief, easy-read and regular nature, to keep interested parties up to date with the field.

The Consortium will be distributing further information about these initiatives as they come to fruition.

NEWS...NEWS...NEWS...NEWS...NEWS...NEWS...NEWS...NEWS...NEWS...NEWS...NEWS..

Neale Analysis of Reading Ability - NEW EDITION.

After a long wait, the revised and restandardised English second edition of the Neale Reading Test is now available from NFER-Nelson. This was published too late for a review to be included in this edition of "Paired Learning". It's not cheap, but check it out before you spend money on any other individually-administered reading test.

Pupils

Both the qualitative responses and the multiple-choice questions have been strikingly similar from year to year. This suggests that the effects being achieved are not due to chance: they are probably the result of the system of tutoring rather than the personalities or performances of participants.

...Maths class at Holland Park Secondary School

What pupils liked best: help has consistently been the most appreciated feature of the scheme for pupils. This reinforces pupil support as one of the principal justifications of tutoring. Also cited have been informality, friendliness and kindness.
What pupils liked least: most have had no dislikes at all. General comments have included: too strict/not strict enough; interfered too much/made me do too much.
How the scheme could be improved: the most frequent suggestion has been for more and/or longer tutoring sessions and more tutors. Odd comments include: should come round rather than stay with one group, more women tutors, better experiments.
Other comments: mostly repeat what already said.

The questionnaires have shown that peer tutoring in primary schools has been a great success for both pupils and teachers. Students have particularly helped those primary teachers not trained in a science discipline both with helping pupils with practical work and suggesting ideas for new experiments.

Students

Benefits — 40% felt that tutoring reinforced their subject knowledge
- 96% of students felt that they had benefited from the opportunity of communicating scientific ideas. This response reinforces a principle justification for students tutoring science and engineering as undergraduates
- an important aspect of tutoring is the contact between young scientists or engineers with people who perhaps do not think science to be very important
- 74% said that tutoring increased their self-confidence
- 82% felt that they had benefited from getting to know people with different social backgrounds
- 91% felt they had benefited from feeling they were doing something useful
- although two-thirds of students felt that tutoring didn't interfere with their studies, a large enough proportion (one-third) did do so to make it worthwhile warning students that they may feel like this
- over the years, it has become obvious that many students use the scheme as a 'test-bed' for a career in teaching. It gives students an insight into teaching before they embark on a PGCE.

What students liked best: most frequently cited has been the satisfaction received from tutoring, followed by pleasure of explaining things, being appreciated and the social contact.

What students liked least: mostly students enjoyed their involvement with the scheme. Odd comments included: (pupil) lack of interest and discipline.
How the scheme could be improved: most students thought that there should be more contact between themselves and the teachers they would be working with.

Teachers

Because there were fewer numbers of teachers involved as compared with pupils and students, it was not really possible to pick up general trends; rather it was possible to detect a general satisfaction with the scheme. Problems tended to be of a technical nature, eg arranging the syllabus to make best use of the tutors. Mostly, teachers were pleased to have an extra person(s) in the classroom with them. Teachers, like students, thought the scheme could be improved with increased contact between tutor and teachers.

In a collaborative exercise to see if the effects of the Pimlico Connection can be replicated in other settings, the organisers of the UGC-funded schemes at Cambridge, East Anglia, Warwick and University College have used questionnaires for pupils, teachers and tutors, based on those used at Imperial College. First returns from these schemes indicate remarkable similarities with the Pimlico project; in particular, students highlight their appreciation of being given the opportunity to communicate

...The Fox Primary School

scientific ideas. The initial findings suggest that it is probable that the positive effects of the Pimlico Connection can be replicated in areas other than the inner city, with students from campus universities and/or in more rural settings.

For further information about the Pimlico Connection contact: David Berry, Imperial College of Science and Technology, Department of Humanities, Exhibition Road, London SW7 2BT.

If you would like to find out more about the 'Students as School Tutors in Science, Engineering and Mathematics Project', and other schemes involving students as tutors to schoolchildren, contact: Beverley Hirst, Project Officer. As part of the Project she is offering free seminars up to 21 August 1989. Address as above.

References

1. *Open Doors: Elderly People as Volunteers in Primary Schools.* Carole Parker and Pat Davis. Published by CSV Advisory Service and the Health Education Authority 1987. Available from CSV Advisory Service. Price £3.00, incl p&p.
2. *Peer Tutoring: A Guide to Learning by Teaching.* Dr Sinclair Goodlad and Ms Beverley Hirst. Published by Kogan Page/CSV 1989. Price £16.95. Available from CSV Advisory Service.

STIMULUS – UNIVERSITY OF CAMBRIDGE

This scheme gives second- and third-year undergraduates and graduate students with appropriate backgrounds in mathematics, engineering, natural sciences and computing the opportunity to work with teachers and pupils in local schools. During its two years of operation, there have been 91 volunteers from 23 Cambridge colleges working in 16 local schools.

The scheme operates in the Michaelmas and Lent terms. Students and Directors of Studies receive information about STIMULUS at the end of the previous term so that volunteers can visit schools as soon as they return after the holiday. Students can choose the time of their visits and can choose upper secondary, lower secondary, junior or infant classes and offer one or more subjects. Half-day orientation sessions are held before their visits start and then again during the school half-term. These sessions prepare tutors for the classroom scenes they will take part in. They are informal and responsive to the ideas, experiences and perceptions of the tutors and to the questions they ask. They have the opportunity to examine some of the resources — texts, worksheets and equipment — that are being used in schools.

Students make at least seven visits to their schools and some continue for a second term. They usually work in pairs with the same class(es) at the same time each week.

For the students, the scheme has provided an opportunity to develop interpersonal skills in a different environment from that of the university. Many students have said that their involvement in the scheme has made them realise that teaching is a much more challenging job than they had ever thought it to be.

For further information contact: Mrs Toni Beardon, Department of Education, University of Cambridge, 17 Trumpington Street, Cambridge.

'TASTER' SCHEME – UNIVERSITY OF EAST ANGLIA

The UEA started a 'taster' scheme for undergraduates interested in science or mathematics teaching. It offers the chance to see the realities of science and maths teaching today before committing themselves to a PGCE course. Another important aim of the scheme is to provide help to teachers and pupils. Students go, on a voluntary basis, to a local school each Wednesday afternoon for a term as student helpers. They participate in the learning process by working alongside the teacher and helping pupils whenever possible, especially with practical work. Over four terms, a total of 36 undergraduates/postgraduates have participated in the scheme with a total of 11 secondary and middle schools. Before their first visit, the student helpers attend a briefing seminar at the university to make them aware of the ways in which they might help pupils and to discuss their behaviour whilst in the classroom. This seminar, and the briefing given to teachers participating in the scheme, have proved to be very important and need careful planning.

Teachers have been divided about the presence of the student helpers having a real positive effect on their pupils' learning, although no teacher found that lessons were more difficult or less enjoyable.

The taster scheme appears to be fulfilling its aims for undergraduates who are interested in science or mathematics teaching, since it provides them with real classroom experience. Most undergraduates felt that involvement in the scheme helped them to make a more rational decision about a possible career as a teacher.

For further information contact: Mrs Sue Pepper, School of Chemical Sciences, University of East Anglia, Norwich NR4 7TJ.

SPELLBINDING
How the sequel to Paired Reading will teach our children to be even brighter
SUNDAY Mirror
COMMUNITY EDUCATION
NETWORK
POWER TO THE PARENTS
International News
Scheme's
THE INDEPENDENT
'Project leads field'
Now the teaching revolution is pair shaped
A bimonthly newspaper of the International Reading Association
READING Today
story of success
success
Reading project points the way
The sweet taste of success
THE TIMES
Educational Supplement
Parental aid can boost children's reading
BOSTON GLOBE
benefits
pairing lifts reading age
World-famous
marked
success
scheme
Study shows immense
value of reading method
Reading program
pairs children,
families at home
READING NEWS
RAI
CUMANN LÉITHEOIREACHTA NA hÉIREANN
READING ASSOCIATION OF IRELAND
ACEBULLETIN
Kirklees reading breakthrough spreads
THE
FRIDAY NOVEMBER
TIMES
Parental
involvement
through Paired
Reading in
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Sustained gains
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